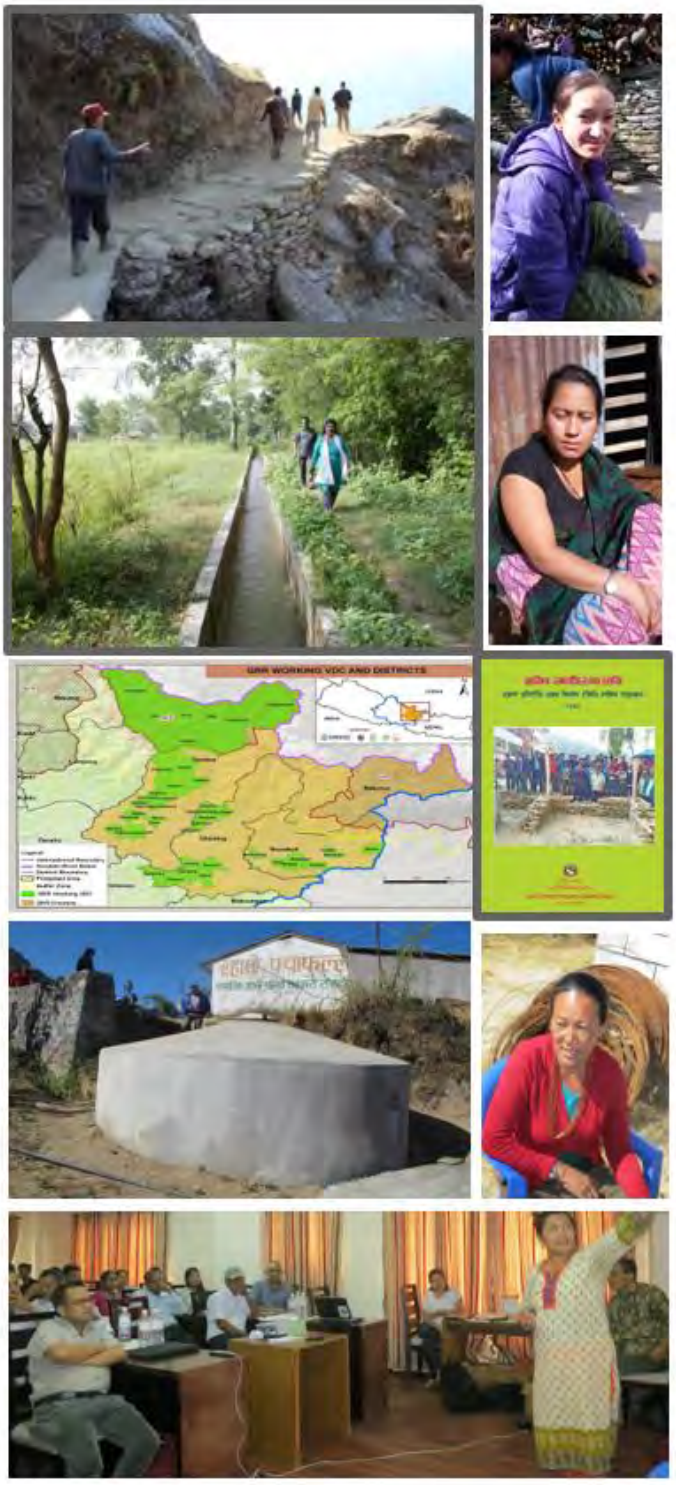
RAPID EVALUATION REPORT OF

HARIO BAN PROGRAM'S GREEN RECOVERY AND RECONSTRUCTION WORK



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Sanjaya Uprety

Evaluation Consultant

LIST OF ACRONYMS AND ABBREVIATIONS

BZUG/C	Buffer Zone User Group/Committee
CAMC	Conservation Area Management Committee
CARE	Cooperative for Assistance and Relief Everywhere
CBAPU	Community Based Anti-Poaching Unit
CDRMP	Community-based Risk Management Plan
CFW	Cash for Work
CFUG	Community Forest Users Group/Committee
CHAL	Chitwan Annapurna Landscape
CTEVT	Council for Technical Education and Vocational Training
DADO	District Agriculture Development Office
DDC	District Development Committee
DDRC	District Disaster Relief Committee
DEO	District Energy Officer
DFO	District Forest Office/Officer
DoE	Department of Education
DRR	Disaster Risk Reduction
DUDBC	Department of Urban Development and Building Construction
ERR	Earthquake Recovery and Reconstruction
FECOFUN	Federation of Community Forestry Users Nepal
GoN	Government of Nepal
GRR	Green Recovery and Reconstruction
GRRT	Green Recovery and Reconstruction Toolkit
GESI	Gender Equality and Social Inclusion
HH	Household
LACCoS	Langtang Area Conservation Concern Society
LDRMP	Local Disaster Risk Management Plan
LIP	Livelihood Improvement Plan
LRP	Local Resource Person
MCA	Manaslu Conservation Area
MCAP	Manaslu Conservation Area Project
MHUC	Micro-Hydro Users Committee
MIC	Metallic Improved Cookstove
MMC	Mule Management Committee
MoFSC	Ministry of Forests and Soil Conservation
MoSTE	Ministry of Science, Technology and Environment
MoUD	Ministry of Urban Development
NGO	Non-Governmental Organization

NRA	National Reconstruction Authority
NTNC	National Trust for Nature Conservation
OSOCC	On-Site Operations Coordination Centre
PDNA	Post Disaster Needs Assessment
PDRF	Post Disaster Recovery Framework
REA	Rapid Environmental Assessment
REM	Rapid Evaluation Method
SBLSS	Shree Bhagwati Lower Secondary School
SIP	School Improvement Program
SSICDC	Shree Swanra Integrated Community Development Center
SWOT	Strengths, Weaknesses, Opportunities and Threats
TAL	Terai Arc Landscape
TITI	Training Institute for Technical Instruction
TOT	Training of Trainers
USAID	United States Agency for International Development
VDC	Village Development Committee
VCA	Vulnerability Capacity Assessment
WASH	Water Sanitation and Hygiene
WWF	World Wildlife Fund

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EXECUTIVE SUMMARY

Earthquake recovery and reconstruction (ERR) through the promotion of green recovery and reconstruction (GRR) practices was started in 2015 by the Hariyo Ban Program. Hariyo Ban is a five-year program funded by USAID that started working in Nepal in 2011 with the goal *to reduce adverse impacts of climate change and threats to biodiversity in Nepal.* In addition to Hariyo Ban's regular program being implemented in two landscapes, the Terai Arc Landscape (TAL) and Chitwan Annapurna Landscape (CHAL), the GRR component was later integrated within existing project objectives to support recovery from the impacts of the devastating Gorkha Earthquake 2015, primarily in the CHAL. With additional funding from the United States Agency for International Development (USAID), GRR was implemented mainly at central level and in four seriously affected districts in CHAL (Gorkha, Dhading, Nuwakot and Rasuwa). At central level the program worked initially with several disaster clusters, and later with several government ministries and departments as well as civil society organizations to mainstream sound environmental practices into recovery. This included support to assessments, guidelines and manuals (e.g. the Rapid Environmental Assessment (REA), Post-Disaster Needs Assessment (PDNA), Post-Disaster Recovery Framework (PDRF) and several guidelines and training manuals). Largely based on the REA and PDNA, Hariyo Ban planned and designed its GRR activities for field interventions that were to be implemented through its four consortium partners: WWF, FECOFUN, CARE and NTNC. The planning and design of GRR activities were based on three main themes: livelihoods, protection and disaster risk reduction (DRR) for resilient recovery and reconstruction. The planned GRR activities under these three themes were related to Hariyo Ban's existing operational objectives that included the reduction of threats to biodiversity and promotion of sustainable landscape management.

At district level, the program collaborated with the consortium partners and other development partners including government agencies to support emergency relief, followed by recovery and reconstruction. Livelihood support focused on activities such as rehabilitation and restoration of irrigation, and distribution of livestock, seeds and agricultural tools to restart agriculture. Cash for work (CFW) schemes contributed to restarting household economies in affected communities to help reduce pressure on forest resources. Foot trail rehabilitation/repair/construction activities helped eco-tourism recover, and restoration of local economies and social connections. Several activities focused on repair and rehabilitation of water supplies in schools. Renewable energy recovery was supported through repairs to micro-hydro power plants and support for fuel-efficient cooking, heating and lighting. Under DRR activities, the Program supported the preparation and partial implementation of disaster management plans at school and village development committee (VDC) levels. The Program also established demonstration sites with good environmental practices such as soil bioengineering techniques to stabilize slopes.

This evaluation of GRR interventions was carried with the objective of evaluating the effectiveness of field interventions in terms of their successes, failures and challenges. It included evaluation of effectiveness of the pilot demonstration sites for the promotion of green practices in the future; capacity building of the core team to promote green practices across different sectors; and mainstreaming gender and social inclusion (GESI) in the recovery work. As directed by the terms of reference and owing to the time limitation of roughly three weeks, the Rapid Evaluation Method (REM) was used to carry out the evaluation. The findings and recommendations made are based mainly on a review of secondary sources; interviews and group discussions with stakeholders; and rapid case studies of eleven selected field interventions covering all three themes of livelihood, protection and DRR in four program districts.

Key Findings

With few exceptions, the overall activities focused on promoting GRR practices at district levels were found to be quite effective in terms of timely planning of activities for recovery, building partnerships with other development partners, and benefitting affected populations to reduce pressure on forests and other environmentally sensitive resource bases. It was effective to reach out to the needy, especially socio-economically vulnerable households (HHs) through the existing community networks of the consortium partners. The participation of women and other vulnerable groups in GRR activities contributed to awareness of green reconstruction practices and made a visible impact on the general well-being of the affected people. The idea of integrating CFW and the training components

in the recovery work was found to have contributed to effective implementation. Similarly, the organizational efficiency of the consortium and local implementing partners played a key role in the successful implementation of project activities. The central level interventions such as GRR trainings were found to be largely successful in reaching out to the multiple audiences including law and policy makers, district disaster relief committees (DDRCs), international and national non-governmental organizations (NGOs), government line agencies, and consortium and implementing partners. One of the key successes of Hariyo Ban's central level interventions was the establishment of local technology-based soil bioengineering demonstration sites which now are being replicated, although is small numbers, by community members in program districts. In the light of the success of GRR interventions, several challenges and gaps were also found during the evaluation. Some of the key findings on challenges and gaps follow:

- Despite planning the GRR program by consulting the consortium partners and their grassroots networks, and assessing the public agencies' priorities (REA & PDNA), several interventions had limitations in addressing the people's expectations as reflected in the strong demand for shelter construction. Working within the donor's regulatory framework, implementing partners faced operational difficulties in convincing people about the scope of the program at project level during the initial stage of project implementation.

- Several GRR interventions such as the power fencing project in Thulo Syafru, portable power fencing in Manaslu area and early warning system installations could not be implemented. The reasons for non-implementation were due to the relatively high cost of the projects, difficulty in timely procurement, limited expertise for technology transfer, and the conflicting interests of the beneficiaries involved. Since priorities of the people lay in meeting the immediate requirements of livelihood, shelter and public infrastructure, the implementation of such projects was found to be difficult.

- In some severely affected areas (viz. Langtang and Manaslu areas) the limited availability of skilled and unskilled human resources required for restoration and recovery work created initial impediments in carrying out the GRR, resulting in delays.

- The successful demonstration of soil bioengineering for landslide protection using bamboo crib walls and allied structures were mostly used in forest areas. The lack of integration of this successful model in other reconstruction interventions (viz. foot trail reconstruction, landslide protection in settlement areas except for few cases) was found to be the reason behind its limited replication. This has also limited the scope for increasing the general awareness of this green technology across the population.

- Long-term sustainability plans were found to be missing for most of the GRR infrastructural projects completed. When reminded about the need for planning for sustainability in terms of the cost of future rehabilitation/repair and maintenance when no Hariyo Ban GRR funds could be committed beyond the end of the project in December 2016, beneficiaries admitted that they lacked such planning.

- GRR training was found to be largely successful in sensitizing and imparting GRR knowledge to government line agencies both at the center and in program districts, to consortium partners and a number of other targeted groups. However, its outreach to the subgroups/community groups, who were responsible for the reconstruction work at community level, was found to be not enough, as evident in the limitations in adopting GRR practice in several projects studied.

- Despite CFW being immensely successful for starting household economies, its implementation was met with several challenges that included the equitable distribution of wages among the participating workers. For example, in several cases there were gender biased demands for more wages from abled-bodied men who thought that their kind of work demanded more physical work than that of women and differently abled persons. In addition, the need to abide by the government-endorsed district rates while deciding upon the labor wages was found to be impractical, as these endorsed rates did not reflect the realistic labor wage rates in disaster recovery and reconstruction situations, causing operational limitations during implementation.

- The local disaster risk management plans (LDRMPs) prepared for VDCs and disaster risk management plans for schools under the DRR theme were found to have limited integration of GRR practice and the provisions made in plans generally lacked important provisions such as plans for storage of emergency equipment, class

room layout and exit points.

Recommendations

From the interpretation of findings, it was learnt that there is room for improvement in several areas in planning and implementation of the GRR program to further increase its effectiveness. Apart from being based on the recommendations made in the REA and PDNA and priority feedback from the consortium partners, the planning of GRR interventions could have been identified as a part of 'strategic planning' to be prepared by Hariyo Ban. The preparation of a 'strategic plan' could have been useful in terms of identifying the priority needs of the public agencies and affected people alike, building strategic partnerships with other development partners working primarily in shelter and livelihood sectors so that integrated field interventions could be made possible to increase the effectiveness of the GRR program at project level. In addition, the GRR implementation planning should consider making judicious selection of action projects which have a greater chance of implementation to avoid conflict and non-implementation status. For example, several projects such portable solar power fencing did not materialize. Similarly, an assessment of the availability of skilled, unskilled and semi-skilled manpower needs to be carried out for effective program implementation.

In terms of implementation, several considerations are required to increase the effectiveness of the program for timely completion, maintenance of quality, and technology transfer. These include the integration of the successful model of local material based soil bioengineering technology with the reconstruction of physical infrastructure, for larger community awareness of the technique; and conducting central-level initiated, well rounded GRR training to the subgroups working on the ground to increase GRR practices in reconstruction work. The upscaling of soil bioengineering techniques through replication in different sites within the program districts needs to consider equipping the local people with basic technical knowledge on site selection criteria. Similarly, the gender biased issues in the distribution of CFW wages and the impractical district rates during emergency restoration and recovery need to be resolved through continuous review, discussion, and at times negotiation.

The equitable distribution of fixed grants for livelihood support needs review to avoid conflict in choosing the number of VDCs and the priority beneficiaries. Under the DRR theme, GRR training is required for the personnel involved in the preparation of disaster management plans so that visible integration of GRR practices is increased from its current limited integration. Another important and essential action needed is including the requirement of planning for sustainability of the completed projects after Hariyo Ban funding is unavailable due to the program end in December 2016.

A series of recommendations is provided along with key findings, in section 11.2 of this report. The priority recommendations emerging from this REM provide useful feedback for the future GRR interventions in the Nepali context.

1. BACKGROUND

1. Started in August 2011, Hariyo Ban was a five-year program funded by the United States Agency for International Development (USAID)/Nepal which chiefly operated through the site-based interventions in two high-value, priority biodiversity landscapes, the Terai Arc Landscape (TAL) and Chitwan Annapurna Landscape (CHAL). The program aimed to reduce adverse impacts of climate change and threats to biodiversity and it worked on three core interwoven components – biodiversity conservation, sustainable landscapes and climate change adaptation – with livelihoods, governance, and gender and social inclusion (GESI) as cross cutting themes. These efforts were complemented by support to strengthen the enabling policy environment at the national level. As of December 2015[1], the Hariyo Ban Program was working in 27 districts, 237 village development committees (VDCs), 26 municipalities, and 2 sub-metropolitan cities. The program was implemented by four core partners:

   - World Wildlife Fund (WWF) Nepal (prime recipient)
   - Cooperative for Assistance and Relief Everywhere (CARE)
   - National Trust for Nature Conservation (NTNC)
   - The Federation of Community Forestry Users Nepal (FECOFUN)

1. In addition to its regular program, with additional funding of $4.8m the Hariyo Ban Program initiated earthquake recovery and reconstruction (ERR) activities focused in the CHAL area after the earthquake of April 2015. The ERR activities were expected to be completed and phased out with the Hariyo Ban first phase, finishing in December 2016. A second phase of the Hariyo Ban Program will run for another five years.

2. Post Disaster Context and Hariyo Ban

2. With its complex geophysical structure and vulnerability to various types of disasters, Nepal ranks as one of the most disaster-prone countries in the world. On 25 April 2015, a magnitude 7.8 earthquake struck Nepal with the epicenter in Gorkha district, located 81 km northwest of the capital city Kathmandu. This was followed by strong aftershocks, including one of 7.3 magnitude with the epicenter 18 km southeast of Kodari in Dolakha district on 12 May. This devastating earthquake left over 8,000 people dead and over 17,000 injured. According to the Post Disaster Recovery Framework 2016-2020 (2016), the quake displaced around 8 million people in Nepal, and 498,852 private houses and 2,656 government buildings were destroyed. Hundreds of settlements were shattered across 31 districts with 14 districts suffering the highest impact. Around 250,000 private houses and 3600 government buildings were partially damaged, which need to be restored. The government's Settlement Relocation Plan aims to rehabilitate some 36,000 earthquake-affected victims and survivor families from 300 settlements.

3. Based on information collected by its consortium partners, Hariyo Ban realized that the Gorkha earthquake had caused significant damage to the human and natural environment. Many of the sites, biodiversity important areas, corridors, watersheds and river basins, particularly in the east of the CHAL area where it worked, had been severely affected in terms of loss of human life, habitats, wildlife and community infrastructure; and destruction/damage to the natural landscape.

4. The destruction of community infrastructure in Langtang Village located within Langtang National Park area by earthquake-induced avalanche and landslides seriously disrupted the park management activities. Similarly, loss of life, destruction/damage of private homes and public buildings, heritage damage and river blockage took place in Manaslu Conservation Area. Many livelihoods were disrupted, with heavy loss of livestock and seeds for planting; serious disruption of tourism; and loss of other jobs. For example, WWF reported that in Gorkha district alone, nearly US$30,000 of Hariyo Ban investments in income-generating activities such as goat farming, poultry

[1]WWF in partnership with CARE, FECOFUN and NTNC; Semiannual Performance Report (1 July 2015–December 31, 2015)

farming, bee-keeping and vegetable farming were affected by the earthquake. Green enterprises such as the *sisnu* (nettle powder) enterprise in Barpak, near the epicenter of the first earthquake, had been severely affected.

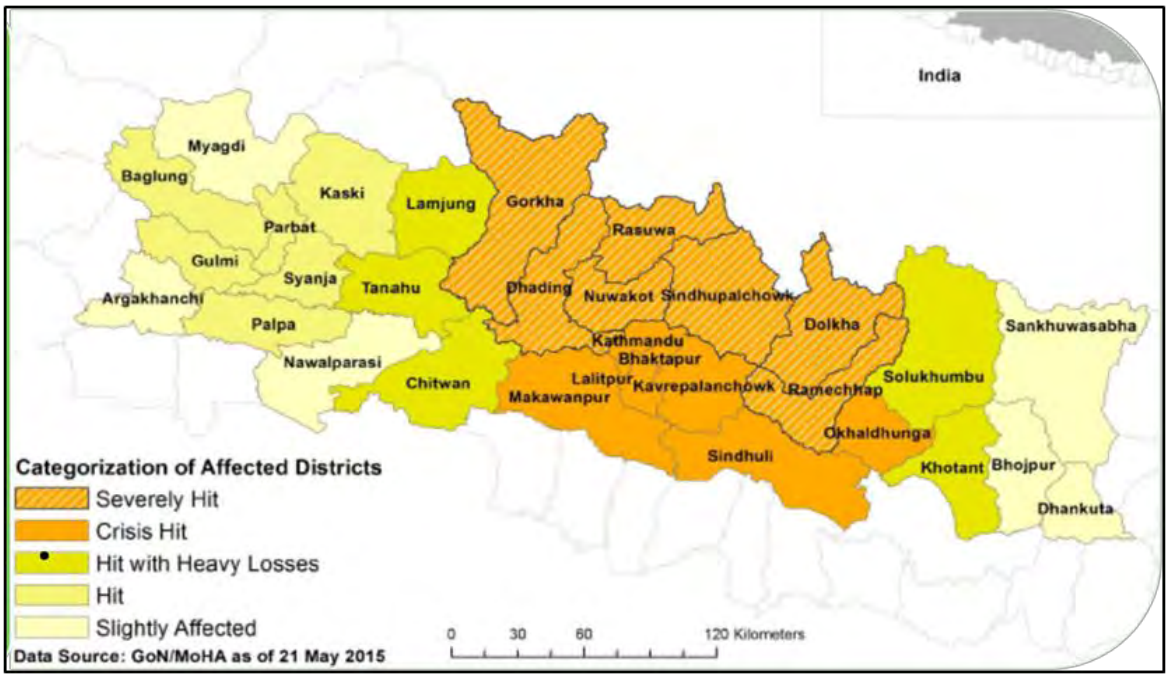


Figure 1 The earthquake affected districts

5. Realizing the massive reconstruction work ahead in the earthquake affected areas, Hariyo Ban responded with initiatives to support restoration and recovery from the loss and damage to infrastructure and livelihoods of the people in its program districts. A National Reconstruction Authority (NRA) newsletter indicated the need for 9.18 billion US dollars[2] for reconstructing damaged properties and infrastructure. As stated earlier, the scale of destruction and damage was not limited to building structures alone; it covered a wide spectrum of human and natural environment. In this context, the concept of early reconstruction and restoration initiatives of the Hariyo Ban Program emanated from the need for a green approach to reconstruction of physical infrastructure and the restoration of livelihoods. It was a far-sighted strategic move on behalf of Hariyo Ban to integrate the concept of 'Build Back Greener' with 'Build Back Better and Safer'. This strategic initiation was recognized later in the PDRF 2016-20 (2016) as one of the important factors in approaching environmentally sensitive reconstruction initiatives. The GRR approach is particularly important since Nepal has a high risk of natural disasters that are related to land uses, and many of its people are highly dependent on natural resources and ecosystem services for their livelihoods and security.

3. Hariyo Ban and Its Early Response to the Humanitarian Crisis

6. In the early days after the disaster, WWF/Hariyo Ban initiatives mainly responded to the needs of the humanitarian crisis by mobilizing emergency relief support in its program districts of Rasuwa, Dhading, Gorkha and Nuwakot through its consortium partners who distributed relief materials like tarpaulins, tents, blankets, food and hygiene kits to affected communities.

7. As policy support, it participated in the preparation of the Rapid Environmental Assessment (REA) in collaboration with the Ministry of Science, Technology and Environment (MOSTE) covering the direct and indirect adverse impacts of the earthquake on environment. Hariyo Ban, WWF and FECOFUN also collaborated with the National

[2] Rebuilding Nepal, Build Back Better (News Letter Oct 2016-Jan 2017) National Reconstruction Authority http://nra.gov.np/uploads/docs/84LdZ2BkQ8161026092851.pdf (accessed 10/12/2016)

Planning Commission, Ministry of Forests and Soil Conservation (MoFSC) and other stakeholders on the multi-sectoral Post Disaster Needs Assessment (PDNA), in the Environment and Forestry Group. These initiatives cover direct impacts of earthquake itself on biodiversity, such as destruction of forests by landslides; and indirect impacts, including effects on capacity for conservation, and impacts resulting from the emergency response, recovery and reconstruction with impacts across different sectors.

Based largely on the REA and PDNA, Hariyo Ban planned and designed its earthquake recovery and reconstruction (ERR). It worked in 59 VDCs and one municipality in four districts: Gorkha (23 VDCs and one municipality); Dhading (12 VDCs); Nuwakot (13 VDCs) and Rasuwa (11 VDCs) through its consortium partners, using GRR as the basic approach to the reconstruction initiatives. The main interventions at district level included, among others: a cash-for-work program; water supply rehabilitation; livelihood support; rehabilitation and reconstruction of physical infrastructure; school water, sanitation and hygiene (WASH) programs; soil bioengineering and DRR (See Annex 1 for the district program details). In addition to this, several programs were envisaged for central level interventions (e.g. GRR training, GRR policy support).

4. Planned Strategies and Activities for Earthquake Recovery

8. The ERR initiatives were planned and actions plans were prepared for field interventions for most affected districts with CHAL area. The initial financial resource for this was made available by realigning/refocusing $2.38 million of obligated funds into earthquake recovery work that was directly related to Hariyo Ban's previous work and working areas. With additional and dedicated funds of $4.8m made available by USAID later, the ERR included additional VDCs beyond those that the program had already been supporting to scale up the recovery activities with realigned funds.

9. In addition to continuing the collaboration with many of its existing partners, including government agencies at central and local level, academic organizations, and Hariyo Ban's existing consortium partners, it also collaborated with a number of other partners working in the disaster management sector, including other ministries and the humanitarian sector which were not previously very involved in Hariyo Ban. The district program and the central level action projects were planned based on the REA and PDNA, and also in close coordination with DDRCs and a number of other organizations to avoid program duplication and to ensure that the priority needs were met. The planned resilient recovery and reconstruction to promote GRR practices under the Hariyo Ban Program component was based on following three themes:
   - Livelihoods and food security
   - Protection
   - Disaster risk reduction

10. The planned activities within these themes were further related to Hariyo Ban's existing operational objectives that included reduction of threats to biodiversity and promotion of sustainable landscape management. Specific strategies and activities to promote GRR were planned to:
   - Assess and mitigate human-wildlife conflict and study the earthquake impact on biodiversity important areas so that threats to local species could be reduced
   - Enhance capacity of community forest user groups (CFUGs); support schools in DRR and WASH; support 'protected area management' with logistics; introduce flood early warning systems and awareness; and improve watershed conditions and assess landslide risk in forest areas; so that the threat to target landscapes is reduced
   - Integrate GESI activities in earthquake recovery so that the internal governance of community groups responsible for ecosystem management is strengthened
   - Distribute seeds/agricultural tools, restock livestock, introduce CFW and recover ecotourism so that income from sustainable sources of livelihoods for forest dependent communities is increased

- Carry out policy follow up to the REA so that creation, amendment and enforcement of biodiversity policies and strategies are strengthened
- Promote alternative energy, support district forest offices (DFOs) with equipment and furniture, demonstrate and orient communities to techniques for wood seasoning for new housing construction, and protect vulnerable areas through biological measures so that issues of deforestation and forest degradation are analyzed and addressed
- Communicate and document for larger communication with relevant stakeholders

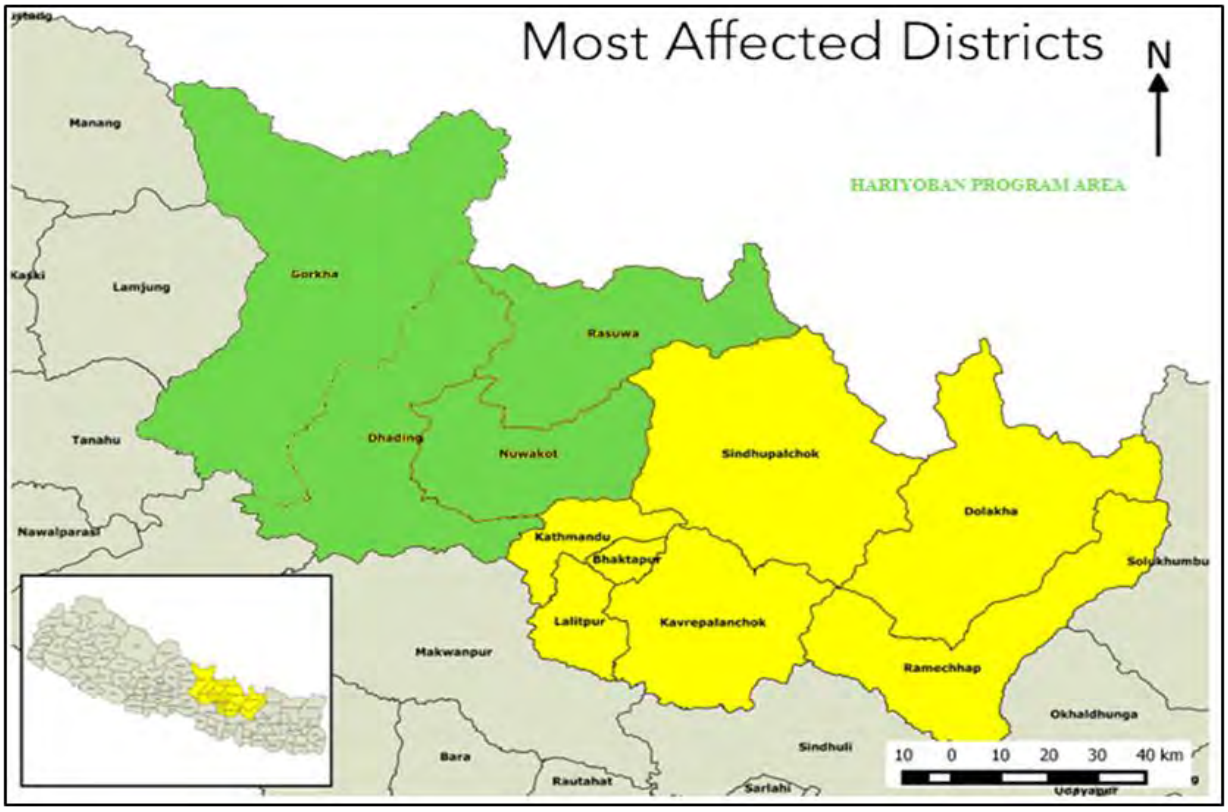


Figure 2 Hariyo Ban GRR Program Districts (in green)

5. Goal of GRR

11. The main goal of the Green Recovery and Reconstruction Program was to enhance the resilience of earthquake recovery and reconstruction efforts in Nepal by identifying and integrating sound environmental practices. Since the green concepts are practical, solution-oriented techniques for integrating environmental sustainability into disaster recovery and reconstruction, it was envisaged as an environmentally-conscious approach to recovery that could help rebuild communities that are more sustainable than the pre-disaster situation. The objective included sustainability as a fundamental principle for building back better, safer and greener. The overall goal of the Hariyo Ban interventions was premised upon a set of ten principles jointly developed by the PDNA and REA teams for green recovery and reconstruction after the earthquake.

6. Evaluation Objectives

12. The main objectives of this evaluation are: to evaluate the general effectiveness of the GRR field interventions in terms of successes, failures and challenges with due focus on effectiveness of the implementation of

environmental practices in the field recovery work in the four project districts; to evaluate the effectiveness of the pilot demonstration sites for the promotion of green practices in the future; to evaluate the capacity building by the core team to promote green practices across different sectors; and to evaluate the effectiveness of mainstreaming GESI in the recovery work.

7. Scope of Work

13. Besides the general effectiveness of the Hariyo Ban partners' field recovery interventions in terms of success and challenges, this REM included in its scope the assessment of the relevance, appropriateness, project impact and project sustainability issues of the implemented projects, mainly from the perspectives of the stakeholders.

8. Methodology Adopted

14. Within the framework of the terms of reference (*Appendix 6*), the REM was used to carry out the evaluation of GRR intervention. The applicability of REM, according to Anker et al. (1993, p. 15)[3] is best when "a need for a quick, accurate, and economical method of evaluation of facilities and client satisfaction" is required. Like other rapid evaluation methods, REM rapidly collects data from a variety of sources, analyzes, and reports data.

15. In this evaluation, data were mainly collected through secondary sources, namely WWF/Hariyo Ban Program central office, its consortium partners and other valid national data sources. The evaluation consultant visited the field during November 17-20, 2016 in Nuwakot and Rasuwa, and November 29-December 5, 2016 in Gorkha and Dhading. Group discussions and unstructured interviews, aided by checklists/interview guide, were carried out with key informants who included project officials of Hariyo Ban, consortium partners, and implementing partners both at the center and in project field offices.

Plate 1 Focus Group Discussion; Thulo Syafru

[3] Anker, M., Guidotti, R., Orzeszyna, S., Sapirie, S., & Thuriax, M. (1993). Rapid evaluation methods (REM) of health services performance: Methodological observations. Bulletin of the World Health Organization, 71(1), 15-21.

16. In addition, exhaustive interviews of selected project beneficiaries and consultation with relevant government line agencies were carried out both in the field and in offices. Due to time constraints, key informants were purposively selected after discussion with project officials in field offices so as to provide a representative sample from the Hariyo Ban GRR interventions.

17. Before starting an interview, team members explained the ground rules for the interview, especially regarding its voluntary nature, non-attribution, and the team's commitment to confidentiality. Direct on-site observations were made for field interventions carried out by implementing partners. The data collection process was iterative in the sense that data were analyzed while they were being collected, and preliminary findings were used to guide decisions about additional data collection. Over 75 people involved with project interventions were contacted, out of whom at least one key informant from each consortium partner and from selected implementing partners were interviewed in four project districts. More than 12 group discussions were held for mixed gender groups in all districts. Officials from government line agencies in the project districts were also consulted whenever they were available.

Table 1 List of Case Studies

S. No.	Name of the Project	Project District	Consortium Partner	ERR themes
1	Chapgaire Water Supply Distribution/ Rehabilitation Project	Nuwakot	FECOFUN, Nuwakot	Livelihood, Protection
2	Various Projects at Thulo Syafru	Rasuwa	WWF Nepal	Livelihood, Protection, DRR
3	Syaubari Water tank rehabilitation Project	Rasuwa	FECOFUN, Rasuwa	Livelihood and Protection
4	Soil bioengineering Project at Pahiro Besi by Laharepauwa	Rasuwa	FECOFUN, Rasuwa	Livelihood, Protection and DRR
5	Trail Improvement Project	Gorkha, Manaslu Conservation Area (MCA)	NTNC	Livelihood and Protection
6	Balpherangrung Khola Micro Hydro Project	Gorkha	CARE	Livelihood and Protection
7	Livestock Restocking Support	Barpak	CARE	Livelihood and Protection
8	Bhagawati Lower Secondary School (Climate and Disaster Risk Management Plan-2073)	Gorkha	CARE	DRR
9	Soil bioengineering at Budathum-5	Dhading	CARE	Livelihood, Protection and DRR
10	Mahendrodaya Secondary School (Climate and Disaster Risk Management Plan- 2073)	Dhading	CARE	DRR
11	Livelihood Improvement Project: Water Pumping Facility for Irrigation	Dhading	FECOFUN, Dhading	Livelihood and Protection

9. Validation

18. The evaluation adopted a mixed methods approach in which data were gathered from a purposively selected range of sources and triangulation of the data was done. The triangulation included verification of quantitative and qualitative data collected from project officials of the consortium partners, and interview data from project beneficiaries and local implementing partners, using the consultant's direct on-site inspection and observation. Based on the validation, the findings, conclusions and key recommendations are made. For the trustworthiness and the adequacy of the information collected, a list of the personnel consulted and the time of the consultation are given in *Appendix 3*.

10. Limitations

19. Given the time constraints and relatively broad scope of the REM process, the current evaluation could not include many case studies in project districts. In cases such as this REM evaluation, the time required for the evaluation is generally eight weeks of which 2-6 weeks are taken for data collection and the rest for report writing. This 20-day assignment thus had to strike an appropriate balance between timeliness and compiling a robust evidence base, and the consultant had to resort to involving project officials in selection of the case studies. Although the consultant was to carry out case evaluations for field interventions by all four consortium partners (FECOFUN, CARE Nepal and NTNC), he could not make field visits to NTNC sites due to time constraints vis-à-vis remoteness of the sites which were mostly located within Manaslu Conservation Area. So, secondary sources were used and two officials from NTNC partners were interviewed in Gorkha.

20. The team was composed of one independent consultant with his research assistant and one staff member from Hariyo Ban; whenever available one person was seconded from the local implementing partner. While this provided invaluable perspectives from Hariyo Ban, its consortium and implementing partners, necessary measures were taken to avoid potential bias and ensure that all team members had a sufficient grasp of evaluation standards and code of conduct.

11. EVALUATION SUMMARY

11.1 Overall Evaluation of GRR Interventions

21. From the review of secondary document sources and case studies carried out by the evaluator in selected sites covering the three major themes of earthquake recovery in four program districts, it can be concluded that the overall activities promoting GRR practices, with a few exceptions, were found to be satisfactory and successful at the time of the evaluation. A fact sheet[4] published by Hariyo Ban/WWF also indicated that the program was successful in making positive impacts on the lives of people by promoting GRR practices in the earthquake recovery activities. The overall impact of the program is evidenced by the fact that 85% more women-headed HHs benefitted from the recovery work compared with the program target of 1200 HHs. The results are even more encouraging for single women and adolescent girls benefitting from recovery (3,810) which was over seven and a half times more than the original target of 500. Under communication and outreach activity, the GRR training given to different stakeholders at central and local level reached out to 1023 people which was 46% more than originally planned (700). In addition, a number of policy documents, GRR guidelines, briefing sheets and manuals were prepared.

22. The selected activities the consultant evaluated covering the three major themes of earthquake recovery in four program districts and at central level are as follows:

[4] Hariyo Ban Program, WWF Nepal (2016), Fact Sheet: Hariyo Ban Program Phase I: Achievements and Learning, WWF Nepal, www.wwfnepal.org/hariyobanprogram

11.1.1 Cash for Work (CFW)

23. CFW was found to be immensely successful as an integrated strategy to restore livelihoods and give impetus to recovery and reconstruction work so that the income from sustainable sources of livelihoods for forest dependent communities could increase. The CFW was directly linked with upgrading the livelihoods of people who had lost livelihood assets (houses, food stocks, livestock, standing crops, cash, and jewelry) and their means of livelihood (employment, trading, and farming) in the earthquake. The program was successful to promote employment creation by engaging affected households in rebuilding/rehabilitating community assets such as irrigation canals, foot trails, water sources and other infrastructure that had been damaged in the earthquake, and undertaking debris removal and landslide protection, applying green practices.

24. CFW activities followed the Ministry of Federal Affairs and Local Government guidelines, and coordinated the implementation of the program with the DDRCs, so that the government-approved district wage rates could be used for CFW distribution and duplication of activities was avoided. It was observed that, as of 30 November 2016, the total number of person days of employment generated through cash for work was 88,110, against the five-year target 105,000. Since data by district were available only in part from the consortium partners it was difficult to assess the achievements by district and hence this is not included in the report.

25. From the perspective of the stakeholders, the reasons behind the successful implementation of CFW were: because it was an integrated approach; and preference was given to the most affected households, including women-headed, very poor and socially vulnerable, and those households who had lost their main earning members. Equal opportunities were provided to women so that cash flowed directly to women. Special consideration was given to extremely vulnerable HHs, such as assigning low-labor tasks and/or conditional cash grants in cases where HHs found it difficult to assign a member to engage in CFW.

11.1.2 Eco-Tourism Recovery

26. Hariyo Ban supported rehabilitation, repair and reconstruction of several damaged/destroyed eco-tourism infrastructures so that the recovery of income from sustainable sources of livelihoods for forest dependent communities was increased. These activities included the rehabilitation and reconstruction of trekking/foot trails, bridges, home-stay facilities, water-supply systems and micro-hydropower in two important tourist destinations – Langtang National Park in Rasuwa and Manaslu Conservation Area in Gorkha district (Reference: case studies two and five). According to the fact sheet published by Hariyo Ban, 186 km of foot trails was rehabilitated/improved/constructed against the target of 20 km in four program districts.

27. Although district disaggregated data were not available for all program districts, the available data for Langtang in Rasuwa and Manaslu in Gorkha district indicated that Hariyo Ban's interventions were responsible for the rehabilitation/construction of 88 km of foot trails against the total need of 130 km in both the districts. Eco-tourism recovery successfully met livelihood restoration through CFW and local economy based on tourism and trades, witnessing the return of tourists at almost 40% of pre-earthquake numbers. The GRR practice in reconstruction/rehabilitation also met with success although in parts depending upon the availability of materials and their transport. In order to support recovery and reduce the risk of environmental degradation as people tried to survive in these areas, Hariyo Ban intervened to support local communities, NTNC and Government of Nepal (GoN) in rebuilding tourist trails, and extending institutional support in terms of logistics and others to NTNC and GoN departments.

11.1.3 Livelihood Support and Restocking

28. Hariyo Ban supported livestock restocking in program districts for those who lost livestock during the earthquake so that income from sustainable sources of livelihoods for forest dependent communities was increased. The livestock restocking helped recovery of families who were supported by Hariyo Ban's regular program to develop livelihood improvement plans (LIPs) before the earthquake. In addition to this, livestock was distributed to affected, socio-economically vulnerable people under LIP, which was also identified as an action project in LDRMPs

prepared with support from Hariyo Ban's DRR initiatives. Grants were disbursed through consortium partners and implementing partners. The vulnerable households were selected judiciously through the Vulnerability Community Assessment (VCA) and then cash grants were distributed for livestock restocking/stocking. According to data (as of October 2016) made available by consortium partners who were implementing livelihood programs in four VDCs in Gorkha and six VDCs in Dhading, livestock restocking and livelihood support benefitted 289 HHs and 172 HHs respectively.

BOX 1: Story of Gauri Dahal

Single Woman, Mulpani, Dhading

Gauri Dahal, age 27, is a single woman living with her 8-year-old daughter. Dahal was a victim of domestic violence by her husband who would not let her live in his house. She was living the life of a destitute. Hariyo Ban supported her with a cash grant under the livelihood improvement plan - an activity identified in LDRMP to achieve DRR objectives. With financial support of less than NRs 25,000 she started her own business with a *thela (*cart). She earned an average of NRs 1,000 each day, which she used for daily expenses and her daughter's education. After starting the business, she saved more than NRs 50,000 in less than a year. With her savings and new-found confidence, she was planning to shift her business to the market area. She said that with access to earning, she felt empowered and she even took an independent decision to pursue a legal claim for property from her husband and in-laws. She is immensely grateful for the support Hariyo Ban provided to her. She thought that the support was a game changer in her life.

11.1.4 Disaster Risk Reduction

29. The lack of DRR strategies in the program districts likely exacerbated earthquake induced damage to the biodiversity conservation activities of the Hariyo Ban Program. So, activities were planned to recover from the losses that ranged from the preparation of DRR strategies for schools and VDCs to providing logistical support and equipment to protected areas. Of several initiatives, Hariyo Ban recovery activities supported the preparation of DRR plans for schools and VDCs and their implementation, so that CFUG and school capacity in DRR could be enhanced. The action plans focused on protection of schools' water sources in pilot sites. Although district disaggregated data for DRR was not available for all program districts, the data made available for Gorkha and Dhading by consortium partner CARE indicated that 20 schools and 4 VDCs prepared DRM and LDRMPs respectively with Hariyo Ban support for plan preparation and implementation. In several schools, water source protection interventions and distribution of WASH materials were initiated.

11.1.5 Soil Bioengineering

30. Soil bioengineering was another successful intervention planned under earthquake recovery that had a significant impact in reducing forest degradation and ensuring slope stabilization. Slope stabilization work using local materials for bamboo crib walls and allied structures was very successful in technical outcomes and technology transfer to local people. There were as many as six soil bioengineering sites (four in program districts and two in Kaski). This is considered by far the most successful intervention to include GRR practice in earthquake recovery activities.

11.1.6 Training and Capacity Building

31. WWF/Hariyo Ban formally introduced and promoted green recovery and reconstruction in Nepal after the 2015 earthquake, though some initiatives had already started after 2014 Terai floods. Besides contributing to the REA and PDNA, it provided technical and/or financial support and in some cases environmental inputs to the following guidelines, manuals, frameworks and project documents prepared by government ministries and departments:
    - Post Disaster Recovery Framework, (2016-2020) by NRA
    - School Construction Guideline by GoN/Department of Environment (DOE)

- Mason Training Manual by Ministry of Urban Development (MoUD)/Department of Urban Development and Building Construction (DUDBC)
- Timber Production, Supply & Management Directives-2072 for Earthquake affected People by MoFSC
- Integrated Land Development Project of Barpak Village at Barpak, Gorkha by NRA and MoUD/DUDBC
- Landslide Survey of Nuwakot District by the Department of Soil Conservation and Watershed Management
- Guideline on Landslide Treatment and Mitigation by the Department of Soil Conservation and Watershed Management

32. GRR training, primarily based on the Green Recovery and Reconstruction Toolkit (GRRT), were also given to targeted groups for capacity building and to raise awareness on GRR practice (Appendix-2). This included:
    - 108 participants from the Hariyo Ban consortium and implementing partners form both central and district levels were trained in GRR
    - 252 DDRC members of four regular program districts and three additional affected districts, namely the Sindhupalchowk, Dolakha and Ramechhap were trained to acquaint and sensitize them about GRR practice
    - 35 engineers and architects of MoUD and DUDBC from both central and district level were trained to impart knowledge and to promote the use of local, reusable and recycled materials in the reconstruction process to minimize threats to the environment due to human settlement
    - Four GRR workshops were carried out for 58 members of parliament, 8 political leaders and 10 media representatives from earthquake affected districts to sensitize and empower them with knowledge on GRR practices
    - Soil bioengineering trainings were given to 88 community members in four program districts.

    Others trained included 66 district forest officials from 31 earthquake affected districts of MoFSC, 35 WASH engineers from the Department of Water Supply and Sewerage, 117 engineers and sub-engineers from the Central Level Project Implementation Unit of the Department of Education (DoE), and 92 district level officials in government line agencies and international and national NGOs. Training of trainer (TOT) training sessions were organized for the instructors of the Council for Technical Education and Vocational Training (CTEVT)/Training Institute for Technical Instruction (TITI).

11.1.7 Communication and Outreach

33. In addition to the formal training and capacity building, WWF/Hariyo Ban presented at conferences and meetings on GRR at the national and international level. The aim was to raise general awareness, and more specifically to reach key decision-makers, senior government officials, donors, NGO leaders, parliamentarians, media reporters and other key audiences. Some major activities carried out under communication and outreach were:
    - Sensitization of influential groups and professional members viz. members of the Society of Nepalese Architects, members of the Nepal Engineers Association, and national workshops on landslides as part of promoting and scaling up adoption of environmentally sound practices
    - Presentation on the significance and importance of GRR in post-earthquake situations to the 2016 conference of the South Asian Association for Regional Cooperation of Architects Conference 2016
    - Organization of a workshop on GRR at the World Conservation Congress 2016 in Hawaii to disseminate GRR experiences in post disaster reconstruction in Nepal

11.2 Overall Evaluation Parameters

11.2.1 Effectiveness

34. The program was *effective* in the sense that it was planned at an appropriate time when affected people were in a desperate situation. Although some issues remained, the identification of interventions/projects was largely successful as it was done through consultation with Hariyo Ban's consortium partners and grassroots networks of their implementing partners. Besides, the involvement of Hariyo Ban at central level in the preparation of the REA and PDNA, and its coordination with government ministries and local bodies including DDRCs, played a key role in identifying, planning and implementing program activities.

35. The planned activities were contextualized and prioritized by the consortium partners through series of public hearings and transparent inception meetings with other stakeholders in the program districts and VDCs, including networks of grassroots beneficiaries, DDRCs, district development committees (DDCs), VDCs, central level line agencies and other development partners. This process contributed to a sense of ownership and greater proactive participation of the affected communities. The integration of CFW and livelihood support in several cases with recovery work was a watershed in bringing the real participation of socio-economically vulnerable people including women, and timely completion of the recovery activities. The integration of GRR training components to sensitize stakeholders, and information dissemination on environmentally sound practices in recovery for different stakeholders including development partners, government line agencies and consortium partners, were found to be effective.

36. The organizational efficiency of district level partners played a key role in carrying out the projects in good time with expected results. The existing rapport with DDRCs, local bodies and line agencies; capacity to mobilize the implementing partners; continuous technical support and mentoring; and the effective monitoring throughout the project cycle can be attributed to the organizational efficiency of consortium partners. Value addition by mobilizing additional human resources by implementing partners from their regular program to GRR recovery also contributed to the timely and successful implementation of GRR initiatives.

11.2.2 Inclusion of GRR Practice

37. In the overall ERR context, the livelihood support including activities such as irrigation and livestock provision to restart agriculture and cash for work schemes to restart household economies were instrumental in taking pressure off forests. Water supply systems were installed or repaired for communities and schools. The rehabilitation and repair of foot trails helped restore social connections, and local economies by restoring tourism. The rehabilitation of micro-hydropower plants, distribution of improved cooking stoves and solar lamps, and introduction of good environmental practices like soil bioengineering to stabilize landslides helped protect forests.

38. From the perspective of the beneficiaries, implementing partners and on-site observation, sustainable reconstruction practice was also adopted in several reconstruction sites. Such practices included but were not restricted to:
    - Use of available alternative building materials, reducing excessive use of cement
    - Construction of public facilities like bridges using timber from dead trees which is no good for shelter construction, to avoid having to cut live trees. Such materials were procured legally with due authorization from the Conservation Area Management Committee (CAMC).
    - Reuse of stones and bricks from debris for the construction of trails. Aggregates required for civil construction were also produced as a part of debris management.
    - Orientation program for beneficiaries towards responsible material sourcing of stone by seeking community consensus (minutes were prepared as in the case of Dhading)
    - Edge plantations of local species were integrated with foot trail construction in several sites (the case of Dhading)
    - Replication of soil bioengineering techniques (e.g. in Dhodeni in Simjung VDC, Gorkha by the Dhodre slope stabilization work group)
    - Inclusion of local people, especially socio-economically vulnerable people
    - Several activities related to forest plantation

11.2.3 Effectiveness of Training and Capacity Building

39. Hariyo Ban's technical support and environmental inputs were very effective in enhancing the capacity of government departments which had identified environmental concerns as their priority. The mainstreaming of environmental concerns in policy documents like the REA and PDRF was found to be very effective not only for Hariyo Ban to design its early GRR interventions in program districts, but also for government to plan their reconstruction activities focused on environment protection. According to the government official (See Box 2)

interviewed, the mainstreaming of environmental concerns in government initiated formulation of policy documents, and preparation of guidelines, manuals and project documents were very helpful to guide the reconstruction activities. The usefulness of such guidelines could be seen in its impact in reconstruction activities. For example, Hariyo Ban's inputs in the preparation of 'Guidelines for Developing Type Designs for School Buildings in Nepal' is helping to integrate environmental concerns in the school reconstruction as this guideline now is a mandatory document that guides the reconstruction of approximately 7000 destroyed school buildings.

40. Although GRR trainings were given to a wide range of target audiences that totaled 1,023 people, only GRR training given to DDRC members, and to government line agencies and I/NGOs were evaluated. The training to these two groups was highly effective in promoting understanding of the concept of GRR practices in recovery and reconstruction. The interview with international NGO participants from Dhunche indicated that they were able to streamline GRR issues in reconstruction in terms of the choice of building material and its sourcing, and in WASH alternatives. A Rasuwa DDRC member who participated in GRR training when interviewed in Dhunche stated that he found it important to advocate for GRR practices wherever relevant. The need for training the site-based small sub-group networked under either implementing or consortium partners was pointed out strongly.

Box 2: Feedback from Mr. Padma Mainali,

Joint Secretary, Ministry of Urban Development

Mr. Padma Mainali, among others, was a key person in overseeing, reviewing and coordinating Hariyo Ban's GRR central level interventions relevant to his Ministry. He considered that the GRR interventions at central level were very effective for their timely initiation to streamline environmental issues in reconstruction, which was also a major priority of the Nepal government. He thought that Hariyo Ban's central level efforts in general and field level interventions in particular could serve as a model for alternative resource mobilization in this specifically targeted sector.

"In addition to the contribution made by Hariyo Ban in the formulation of policy documents like the PDNA and REA to mainstream environmental issues, its training programs and environmental guideline preparation can be considered major achievements to impart GRR knowledge. The GRR training programs carried out at different levels of government, which included policy makers and people working in the field, will have positive and far-reaching consequences in future policy formulation and implementation of GRR practice." He specifically mentioned: "The guidelines like building material selection and use could be very handy for engineers supervising owner-led, in-situ reconstruction of damaged houses. Hariyo Ban's support to the settlement planning project 'Barpak Reconstruction and Re-habitation Project' using the Land Readjustment technique was a major step towards establishing a pilot case for post-disaster integrated settlement planning. While the ongoing project had some limitations in the consultant's understanding of the project objectives of integrated settlement planning using the land readjustment technique, it will definitely come out as a model for settlement planning". He opined that: "Hariyo Ban's central level GRR initiatives and its impact in actual implementation need to be regularly assessed using some kind of mechanism and the Ministry is ready to contribute to this endeavor."

41. The workshops organized to sensitize and raise awareness of Members of Parliament and political leaders from affected districts was an achievement, as the lawmakers made commitments for GRR by issuing 10-point Program Declarations. According to Hariyo Ban's progress report, participants stressed building of environment-friendly structures for sustainable development during reconstruction of earthquake-ravaged structures. According to the joint secretary of MOUD, the training program at this level will have far-reaching consequences in terms of influencing environment-friendly policy formulation for disaster management.

11.2.4 Key Findings

42. Despite the GRR program being planned by consulting the consortium partners and their grassroots networks, and assessing the public agencies' priorities (REA & PDNA), several interventions had limitations in addressing the real needs and the people's expectations. It was reported that the earthquake-affected people were skeptical about the emphasis on environmental protection, as they were expecting the project to focus on contributing to the dire need for reconstructing shelter and public buildings. Working within the donor's regulatory framework, implementing partners faced difficulties to convince the people about the scope of the program at local level during the initial stage of project implementation (see priority recommendation 11.2.5 (53)).

43. Several GRR interventions such as the power fencing project in Thulo Syafru, portable power fencing in Manaslu area and early warning system installations could not be implemented. The reasons for non-implementation were: the relatively high cost of the projects, difficulty in timely procurement, limited expertise for technology transfer, and the conflicting interests of the beneficiaries involved. Since priorities of the people remained in meeting the immediate requirements of livelihood, shelter and public infrastructure, the implementation of such projects was found to be difficult (see priority recommendation 11.2.5 (54)).

44. In severely affected areas, the limited availability of skilled and unskilled people for restoration and recovery work in some cases (viz. Langtang and Manaslu areas) initially impeded GRR interventions, causing delays. The implementing partners in one project site visited (Thulo Syafru) expressed concern about the lack of skilled workers, and their own limitations in understanding general technical terms used during the project inception meetings with the beneficiaries, and the implementation phase (see priority recommendation 11.2.5 (55)).

45. The successful demonstration of soil bioengineering for landslide protection using bamboo crib walls and allied structures were mostly used in forest areas. The lack of integration of this successful model in other reconstruction interventions (viz. foot trail construction and landslide protection in settlement areas, except for few cases like Pairobesi in Rasuwa and Burathum-5, Dhading) was found to be the reason behind its limited replication. This has also limited the scope for increasing the general awareness of this green technology across the population. The discussions with beneficiaries in Pairobesi and Barathrum indicated the need for such integration to enhance the community's disaster risk perception and risk reduction strategy (see priority recommendation 11.2.5 (56)).

46. It was found that beneficiary communities did not have any plans for sustaining the restored/rehabilitated infrastructure projects after Hariyo Ban GRR funds stopped at the end of the first phase of the project in December 2016. When asked how they were going to do regular maintenance or repair/rehabilitate structures in case of another disaster, their expectations were to get funding from elsewhere (see priority recommendation 11.2.5 (57)).

47. GRR training was found to be largely successful in sensitizing and imparting GRR knowledge to government line agencies both at center and in program districts, to consortium partners and a number of other targeted groups. However, its outreach to subgroups/community groups who were responsible for the reconstruction work at community level was not enough, as evident in the limitations in adopting GRR practices in several projects studied. During evaluation discussions the reasons attributed for this limited success were: lack of proper GRR orientation training/information to the groups/subgroups functioning under implementing partners, project types and the contexts of implementation. Another important impediment related to replication was attributed to the lack of technical knowledge for soil bioengineering site selection as current practice could not cover all kinds of slopes (see priority recommendation 11.2.5 (58)).

48. The CFW program to implement GRR programs was immensely successful because it provided an opportunity to participating individuals and households to make independent decisions and to make their own spending choices. The program was instrumental in contributing to restoring HH economies and to addressing GESI in recovery efforts. Despite its success, it also posed and created gender sensitive challenges and conflicts in various cases. During the consultation with stakeholders, it was found that the distribution of CFW on an equity basis among men, women and differently abled persons was opposed by the abled-bodied men looking for a bigger share of the labor payment (viz. Chhapgairi Water Supply Rehabilitation project). The conflict mainly emerged with implementing partners deciding to apply equity distribution for CFW payments. Also, the implementing partners faced a dilemma in setting the labor rates for CFW as they had to abide by the prevailing government endorsed district rates for daily labor wages, which were primarily worked out for public procurement in the construction industry. However, this failed to provide a rational basis for the labor rates in the case of immediate reconstruction work such as that Hariyo Ban initiated. Since the CFW projects took place during the middle of the financial year it was difficult for the DDRCs to adjust rates at that time, and an informal agreement was adopted to add a snack allowance (khaja in Nepali) to cover the hardship in remote areas of the district where it was difficult to find labor after the earthquake.

Similarly, other challenges in CFW implementation included the problem of ghost workers, and timely supply of tools/equipment and construction materials. It was noted that motivating people to join CFW was rather difficult especially when the affected and already vulnerable women and differently abled persons were in disaster-induced psychological distress. (See priority recommendation 11.2.5 (59).)

49. Despite being gratefully received by the beneficiaries, the LDRMPs prepared for VDCs and disaster risk management plans for schools under the DRR theme were found to have limited integration of GRR practice, and generally lacked important provisions such as plans for storage of emergency equipment, class room layout and exit points. (See priority recommendation 11.2.5 (60).)

50. Significant operational challenges were reported despite the popularity and positive impact of livestock restocking to support the existing LIPs under Hariyo Ban's regular program. The main challenges lay in distributing the fixed budget in targeted areas as there was a risk of excluding many in need (see priority recommendation 11.2.5 (61)).

51. It was found that transportation was a major challenge in almost all projects studied due to poor access, availability of labor and seasonal hindrances.

52. In several cases, the late disbursement of funds from the consortium partner responsible for contracting with the implementing partner had posed immense pressure on the implementing partner for timely procurement of the goods and materials (viz. Chhapgairi Water Rehabilitation Project). (See priority recommendation 11.2.5 (62).)

11.2.5 Priority Recommendations

53. It is essential that GRR programs are planned in co-ordination with other development partners and/or governmental line agencies working/responsible for shelter reconstruction and livelihood programs, so that integrated field interventions for effective implementation of the GRR program at project level (see key findings 11.2.4 (43)).

54. It is desirable that the 'overall planning and design of GRR interventions' consider the risk of non-implementation of certain GRR interventions (viz. portable solar power fencing) which required ample investment, technology transfer for operation and maintenance, and substantial time to manage the conflicting interests of beneficiaries/affected people. Projects of this type and nature should be implemented under Hariyo Ban's regular program, and the budget directed towards implementable projects (see key findings 11.2.4 (44)).

55. While planning CFW implementation, it is desirable to carry out rapid surveys on the availability of human resources (both skilled and non-skilled), not only from the affected areas but also from surrounding settlements/VDCs. It is recommended that the GRR planning phase consider rapid skill training for selected manpower with a GRR focus, along with a short orientation program for implementing partners on general technicalities of the project (see key findings 11.2.4 (45)).

56. During GRR interventions, it is desirable to integrate the current model of soil bioengineering using bamboo crib walls and allied structures in reconstruction of public infrastructure (e.g. access improvement, trail rehabilitation, water source protection, edge protection) at settlement level so that it has a bigger and positive impact on awareness of green technology, disaster risk perception and risk reduction strategy. It is highly recommended that Hariyo Ban prepares a manual illustrating key soil bioengineering site selection criteria that could readily be used by communities. Also important is the need for inclusion of the technology in central reconstruction policy for positive outcomes (see key findings 11.2.4 (46)).

57. During the GRR project planning and implementation through the implementing partners, it is imperative that the requirement of planning for sustainability be included in the contract, at least for infrastructure projects (see key findings 11.2.4 (47)).

58. During the inception phase of the project execution, it is imperative that the network of subgroups directly working under consortium partners or implementing partners be given well rounded orientation or training on GRR practice

in earthquake recovery reconstruction (as opined during discussion with DDRC members) (See key findings 11.2.4 (48)).

59. It is imperative that the labour groups working for a specific CFW project are given authority to decide on the basis of distribution, as such practice was successful to mitigate conflict (as observed in a FECOFUN project[5] in Dhading). It is also desirable for consortium partners to work in close coordination with the DDRC and the MOUD/DUDBC division office (responsible for working out district rates) to arrive at the real labor cost prevailing in the reconstruction project sites, and for these to be adjusted in light of the recovery situation when needed. Integration of social workers trained in psychological counseling/debriefing will help the inclusion of vulnerable people in CFW (see key findings 11.2.4 (49)).

60. Devise effective ways to contextualize disaster management plan preparation so that it includes multiple risk perception, risk attitude, risk communication and risk management. Visible integration of GRR practices (Viz. soil bioengineering, green design approach to building construction) in disaster management plans is highly recommended. Well designed short training during major stages of plan preparation are desirable for the effective preparation of disaster management plans (see key findings 11.2.4 (50)).

61. It is desirable for consortium and implementing partners to work closely with Local Disaster Management Committees to identify the demand based target group for the implementation of LIPs within the framework of LDRMPs (see key findings 11.2.4 (51)).

62. An efficient scheduling of the project, based on strengths, weaknesses, opportunities and threats (SWOT) analysis, is desirable. The consortium partners also need to devise efficient ways to disburse funds in a timely manner for the smooth execution of the project (see key findings 11.2.4 (52)).

In addition to the aforementioned points, it is desirable to enhance management of the project documentation system for the consortium and implementing partners. Although the progress of project implementation was monitored by the concerned partner in several cases studied (viz. Chhapgairi Water Rehabilitation Project), it was observed that the documented reporting was either not made or was very poorly produced for each stage of monitoring. So, capacity building focusing on reporting is recommended for the consortium and implementing partners for effective project implementation and documentation.

12. CASE STUDIES: NUWAKOT DISTRICT

12.1 Disaster Context

63. Nuwakot was one of the districts worst affected by the 25 April earthquake. According to the On-Site Operations Coordination Centre (OSOCC) Assessment Cell (2016), 1,000 people were killed and 1,311 injured. The Government's initial estimate as of 12 May 2015 was that 51% of the district population was affected by the earthquake, as many as 30,000 buildings were destroyed, and about 15,000 buildings suffered partial damage. Northeastern VDCs were most affected. The earthquake had devastating effects on WASH, food security, physical and social infrastructure and forest sectors in the district.

[5] Carried out by Sildevi CFUG in a remote Chepang settlement in Dhadhing

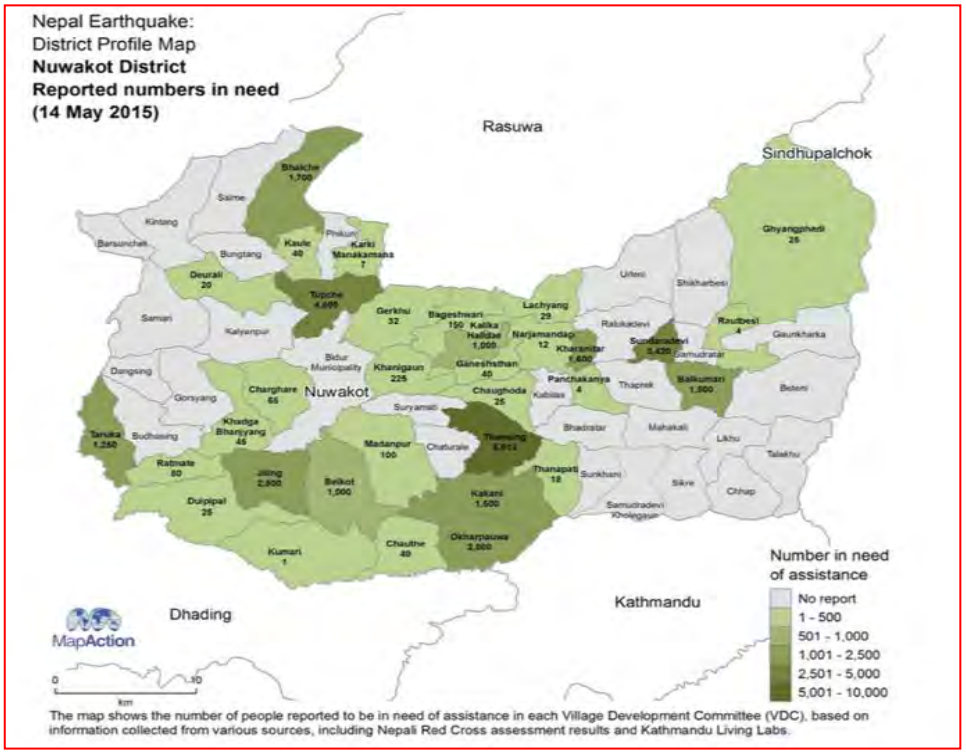


Figure 3 Nepal Earthquake: Nuwakot District Profile

64. Hariyo Ban initiated relief and recovery work in Nuwakot soon after the earthquake (*refer to Appendix 1*). For example, WWF made a direct investment of approximately NRs 10 million; over 50% was invested in irrigation canal and water supply rehabilitation projects, 10% on improving accessibility by rehabilitating foot trails in rural areas, 7.4% on awareness campaigns for DRR programs, and more than 7% on livelihood improvement and GESI. Generally, most of the activities were implemented through CFW. For instance, people involved in cleaning irrigation canals or improving foot trails were paid as per the daily wage rate fixed by the government.

65. GRR activities were also carried out in Nuwakot by Hariyo Ban's consortium partner FECOFUN, which operated through its existing grassroots community based organizations including community forest user groups (CFUGs) and their user committees. In consultation with the DDRC FECOFUN identified eight program VDCs in Nuwakot-8 to implement GRR interventions in. During initial meetings and consultations with these eight CFUGs different projects were identified and allocated based on common consensus and priority.

12.1.1 Case Study One: Chhapgairi Water Supply/Distribution Rehabilitation Project

Project Brief

66. Of several Hariyo Ban recovery activities in the district, Chhapgairi Water Supply Distribution Project was considered successful from the perspective of all stakeholders involved. Located at Chhapgairi, Kakani-1, Nuwakot and implemented by the Chhapgairi CFUG under the aegis of FECOFUN, this activity rehabilitated water a supply system damaged by the earthquake. In addition to the direct beneficiaries, a *Tamang/Janajati* (ethnic population) with 42 HHs in Lamatol, the project also benefitted community infrastructure: a gumba (monastery) and a public school.

THE PROJECT:
Project: Water Supply Distribution Project
Location: Chhapgairi, Kakani-1, Nuwakot
27°49'33" N-85°12'4" E
Elevation 5520 Ft
Implementing body: Chhapgairi CFUG
Consortium Partner: FECOFUN
Time Period: 4 Months

Effectiveness of the Program

67. The program was effective for a number of reasons. First and foremost, the project was able to increase participation of stakeholders, both men and women, as the rehabilitation work was integrated with CFW. In this project, as many as 15 HHs directly benefitted from the CFW activities. The disaggregation of data for the CFW indicates that 52% of women benefitted from the project; beneficiaries included 28 people over 40 years and 15 people aged between 13 and 40 years. The restoration and rehabilitation of the water supply system has saved almost an hour of people's time spent fetching water from elsewhere, making it easier for the HH and school-going women population. The beneficiary survey indicated that 69 youths aged 16-24 directly benefitted from the project. The convenient water facility has improved the use of toilets amongst locals, and has also improved the WASH situation and kitchen garden activities.

Plate 2 Rehabilitation of water-supply and on-site focus group discussion

68. Socially, the project had a bigger impact among women as the women-led implementing partner was able to contribute to conflict mitigation regarding the sharing of water between communities located upstream and downstream of the water source. Similarly, the issue of land availability for the construction of the reservoir water tank was resolved by acquiring jointly owned land (477 sq. m) registered in the name of 3 women representing three different community based organizations[6]. The effectiveness is also seen in the partnership building between different stakeholders. For example, the project area for water supply rehabilitation was selected among eight recommended forest areas during consultation with the DDRC. The District Water Supply Office contributed to the shortfall of pipes for the project.

69. In the group discussion, it was made clear that the project is considered successful from the perspective of the stakeholders involved. The implementing partners and the beneficiaries attributed success to the organizational efficiency in terms of community networking, transparency in the governance of the project, timely completion, and integration of CFW with the project, encouraging good women participation. The transparency could be maintained as the project was discussed at the grass root level through the network of subgroups under Chhapgairi CFUG at various stages.

[6]PaachKanyaYuwa Club, LhaasaFyafullaSamajikUdyamiMahila Sahakari Sanstha Ltd, Shree Chhapgaire CFUG

GRR considerations

70. Although Chhapgairi CFUG is involved in a number of green recovery works such as plantation of *amriso,* bamboo and fruits in its operational area, the GRR concerns in this project seemed to be limitedly met. Some of the green concerns that were incorporated could be attributed to the use of local labor and local construction materials, minimizing the use of cement, and appropriate alignment of the water supply pipes to avoid tree and vegetation clearing. Although planned, the conservation of water source has not really kicked off.

Implementation Issues and challenges

71. Although considered successful by the stakeholders, the project had to confront various issues and challenges as outlined below:
    - Difficulty in the transportation of the material due to the remoteness of the water source and muddy roads during the monsoon, and delayed fund disbursement from WWF, constraining the implementation partner to procure materials on credit
    - Conflict over the use of water by communities located upstream and downstream of the water source, requiring negotiation

      Long-term sustainability of the project in terms of its maintenance and operation was not well thought out.

Box 3: Story of Thuli-Maya Lama

Thuli-Maya Lama, aged 48, is the president of Chhapgairi CFUG. She is literate and has a family of seven. She is happy to see this project being completed as she still finds it hard to believe that the project is a reality now.

"With the completion of the Hariyo Ban supported project in my community, we've observed improvement in livelihoods of the community members. Although successfully carried out, we faced difficulty during the implementation phase due to the lack of the knowledge on documentation for accounting and general technical matters. However, we are now confident that we could successfully implement a similar project. The CFW enabled active participation of women in the rehabilitation work and the earnings we made in a time of distress has earned us respect in our families – including my own family. I would be grateful if Hariyo Ban helps us and others to document our recovery activities."

13. CASE STUDIES: RASUWA DISTRICT

13.1 Disaster Context

72. Like Nuwakot, Rasuwa district suffered heavily from the Gorkha earthquake. According to the OSOCC Assessment Cell (2016), 430 people were killed and 753 injured in Rasuwa as of 8th May 2015. A number of people including tourists died in the earthquake-induced avalanche in Langtang village. The Government's initial estimate as of 12 May 2015 was that 82% of the population was severely affected by the earthquake, with 8,000 houses destroyed.

73. The earthquake had devastating effects on WASH, food security, physical and social infrastructure and forest sectors in the district. In remote VDCs of Rasuwa (viz. Thulo Syafru in Langtang), blockages/destruction of foot trails, roads and eco-trails severely limited the movement of people and pack animals, resulting in loss of local economy and social connections among the affected people. People had to live with limited availability of drinking water due to the earthquake, and poor sanitation caused, for example, by open air defecation due to the destruction of toilets.

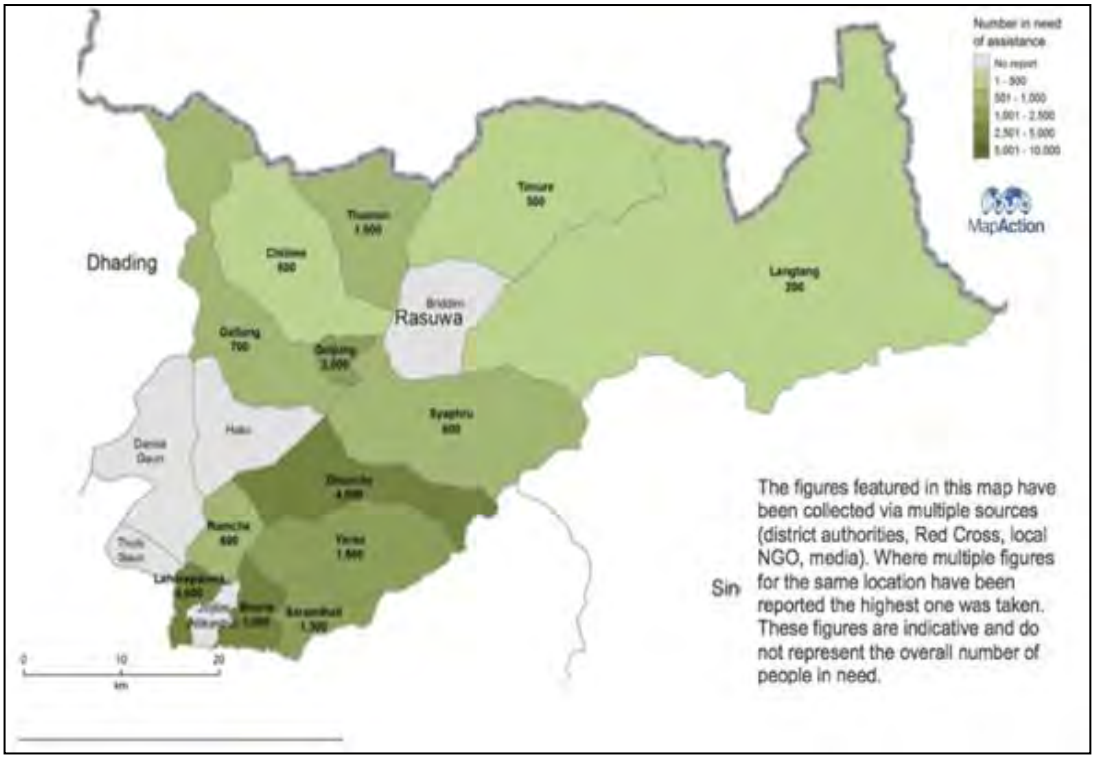


Figure 4 Nepal Earthquake; Rasuwa District Profile

74. In the district, Hariyo Ban planned and implemented GRR through consortium partners WWF and FECOFUN. WWF Nepal worked through buffer zone user groups (BZUGs), Langtang Area Conservation Concern Society (LACCoS), and their grassroots network within the park area, focusing more on reducing human-wildlife conflict (viz. red panda monitoring) and rehabilitation/repair/construction of eco-trails to help the ecotourism sector recover. FECOFUN operated through ward and VDC level networks of CFUGs. Projects were carried out in close co-ordination with the DDRC and other line agencies like the Department of Agriculture, Department of Soil Conservation and Watershed Management, and other development partners. The major focus of GRR activities in the district is given in Appendix 1.

75. Analysis of available data indicated that CFW implemented by WWF was quite successful, accounting for almost 30% of the total budget spending, and contributing positively to restarting household economies including vulnerable households. Beneficiaries expressed gratitude for WWF's GRR interventions in almost all sites visited. The WWF program also included successful institutional capacity building through training of local resource persons (LRPs), and support extended to provide damaged offices with furniture and other equipment. Projects like power fencing were the ones that could not be implemented as planned due to the cost, transportation difficulty, lack of technological knowhow, and the conflicting and competing interests of the beneficiaries.

76. FECOFUN worked on foot trail improvement and rehabilitation of water supplies and irrigation projects. It funded debris management, livelihood improvement, awareness building and other institutional strengthening programs. Among several interventions, some that are important and locally well adopted were the soil bioengineering practice and debris management in schools.

77. Although successful, the GRR interventions had several challenges. These included the contextualization of the program designed at the center by linking it with people's aspirations. The rigidity in the contract system in terms of renegotiation and district costs were other noticeable challenges. It was learnt that the inception meetings and public hearings were very effective for local ownership of the project. The implementing partners led by all-women members were very successful in implementing the projects in time.

13.1.1 Case Study Two: Various Projects in Thulo Syafru

Project Brief

78. Hariyo Ban supported rehabilitation and repair of several water-supply systems so that threats to target landscapes could be reduced. Similarly, eco-tourism recovery and livelihood improvement interventions were supported, in combination with CFW so that incomes from these activities could provide instant financial relief to affected forest-dependent communities.

THE PROJECT:
Consortium Partner: WWF Nepal
Implementing Partner: Suryakunda Buffer Zone User Committee (BZUC)
Location : Syafru VDC
28°8'27" N 85°21'36" E
Elevation : 7380 Ft

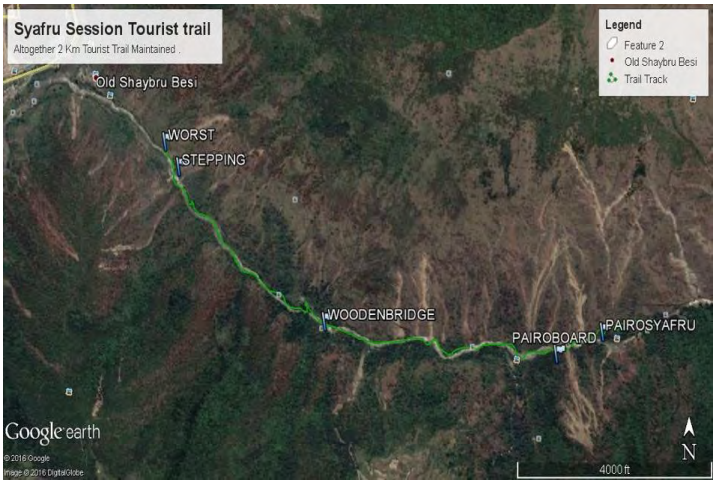
79. Of several Hariyo Ban earthquake recovery activities in Thulo Syafru, the main projects with larger impacts were trail improvement, irrigation rehabilitation and debris management in combination with CFW. Support for the monastery, red panda monitoring office building and dumping pit for solid waste management were quite appreciated at village level.

80. WWF identified as implementing partners Langtang National Park and Suryakunda Buffer Zone Users Committee (BZUC) which effectively implemented the GRR activities. The BZUC worked through its network of twenty-one user groups including Thulo Syafru and Bravel. The modality of project implementation included inception meetings/public hearings with user groups, DDRC, government line agencies and other stakeholders; awarding of contracts to implementing partners with GRR compliance; and effective monitoring of the implementation work.

Effectiveness of the Project:

81. While the implementation of GRR activities directly benefitted the community and nearby settlements through CFW, it also had significant impact on restarting stagnant household economies. People rated the improved access as the most appropriate and relevant intervention that helped the village recover from the loss of tourism and social connection. According to them, tourism recovered by almost by 40% in a year. The improved access was crucial for movement of goods and services; restoring community social connections, easy access for students, especially for girl students to go to high school (an hour's walk), and for general movement of pregnant/sick women and senior citizens.

82. The second highest priority activity was the irrigation rehabilitation project which benefitted the community's agricultural recovery. CFW that managed debris for the local monastery was found to be quite successful. In the group discussions, it was observed that the timely intervention by Hariyo Ban had helped restore the sense of ownership of the projects, and community confidence in reconstruction initiatives.



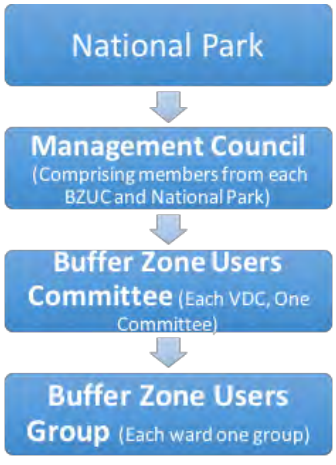


Figure 5: Construction of Tourist Trail & Implementation Mechanism

GRR Considerations

83. While the overall implementation of GRR activities in the district contributed to biodiversity conservation, GRR practices observed at local implementation level included: minimizing use of cement in trail construction; recycling of bricks and stone to produce fine aggregates; planting to stabilize the edges of trails; and conservation of watersheds.

Plate 3 Interaction with Stakeholders at Thulo Syafru

Implementation Issues and Challenges:

84. Major implementation issues included the unavailability of skilled manpower; difficulties in transportation of construction materials; and challenges in ensuring continuous technical inputs required for foot-trail construction on slopes. The consultant's delayed design work and cursory field investigation for the irrigation rehabilitation project resulted in technical difficulty, requiring revamping of the design and increasing the project cost (3.5 times more). In a later phase the project was redesigned using alternative material to reinforced cement concrete in construction of the canal, delaying the project by more than 3 months.

85. Despite popular demand, power fencing could not be implemented due to the high cost, technology, procurement and conflicting interests of the stakeholders involved. Although it was used successfully in Bravel to reduce human-wildlife conflict, its implementation as a GRR intervention was difficult and as suggested, it should instead be implemented under Hariyo Ban's regular activities.

86. The sustainability of completed projects seems to be questionable as no plans were in place for periodic maintenance, repair and operation. Since the issue of sustainability was not included in GRR contracts, people were going to depend on future grants from elsewhere.

87. A widely observed challenge regarding the implementation of the project included the difference between the district rate for CFW and the current wage rate in remote areas. Hariyo Ban added snack allowance (khaja) in remote areas as explained above.




13.1.2 Plate 4 Various GRR Activities in Thulo Syapru

Project Brief

88. The reconstruction of the damaged water tank intake in Syaubari benefitted more than 200 households in terms of enhancing their livelihood opportunities. CFW encouraged and increased participation of vulnerable groups in reconstruction activities which helped them restore their household economies. The DDRC was informed about the project prior to starting. The operational management of the water system is done by a management committee which collects a nominal amount (NRs 200/year) for the operational cost and spends around NRs 18,000 in maintenance.

THE PROJECT
Consortium Partner: FECOFUN
Implementing Partner: Syaubari CFUG, Paiyabot
Location: Laharepauwa-8
28°36'6" N 85°13'01" E

Effectiveness of the Program

89. The program's effectiveness can be assessed from the time saving, mainly for women and girl students who otherwise had to walk for 2.5 hours to fetch water. It contributed significantly to the WASH behavior of the community. The project was considered successful by both the officials from FECOFUN and the beneficiaries in terms of timely completion, good coordination between FECOFUN and the local implementing group, transparency and accountability, and good governance of the project.




Plate 5 Ferro Cement Tank Construction & Interaction with Stakeholders
Top right photo: FECOFUN Rasuwa, Hariyo Ban Program)

GRR Considerations

90. While the overall implementation of activities contributed to biodiversity conservation, GRR application at project implementation level was observed in terms of using cost-effective and user-friendly ferro-cement for the construction of the water tank intake, and reuse of stone debris to fill the ground, produce aggregate and construct the platform on which the tank was placed. Water source protection was carried out with fencing and plantation of local plant species.

Implementation Issues and Challenges

91. Like in other cases, the issue related to CFW also arose here. Another major challenge was the lack of skilled labor for the construction work.

Box 4: Story of Mrs. Yosang Tamang

Lama tole, Laharepauwa 8, Earthquake Victim and Mother of four daughters aged between 4 and 11

Along with my house, the reservoir tank for potable water was destroyed which severely reduced the quality and quantity of the water. For fetching water, I had to walk to other sources which are 20-30 minutes away. Sometimes the queue for water would take one hour for one bucket of water. FECOFUN with the support of Hariyo Ban Program rebuilt the reservoir with a bigger capacity of 20,000 liters, and the work was completed in October 2016. Now, we have an almost continuous supply of water, with some occasional intermissions at night. The increased quantity and quality of water has eased my life and I can spend more time for my daughters and in my kitchen garden. I received 3 female goats with the support of NRs. 10,000 from Hariyo Ban Program, FECOFUN. One of them has given birth to a new kid. I also received some money from the "cash for work program" of Hariyo Ban by working on the reservoir rehabilitation.

13.1.3 Case Study Four: Soil bioengineering Project at Pahire Besi

Project Brief

THE PROJECT
Consortium Partner: FECOFUN
Implementing Partner: Laharepauwa BZUC
Location: Laharepauwa-5
27°58'33" N 85°10'59" E
Elevation: 3220 ft.

92. Hariyo Ban carried out soil bioengineering work for landslide sites. The main objective was to establish soil bioengineering pilot demonstration sites in five districts, enabling on-site discussion on different soil bioengineering techniques along with the method of implementation.

93. Pahire Besi of Laharepauwa-5 in Rasuwa district was selected as a pilot site for slope stabilization work using soil bioengineering techniques such as brush layering, drainage fascines, palisades, bamboo crib walls, single tree planting and grass planting. Two landslides caused by the Gorkha earthquake just northeast of the Pairobesi settlement were chosen, each with roughly 300m surface area, in order to demonstrate landslide protection that would benefit around 30 HHs.

94. The project was implemented by FECOFUN through its implementing partner, Laharepauwa BZUC. The Pairobesi CFUG led by a woman president successfully carried out the work, with onsite technical training provided by Hariyo Ban. Local materials like bamboo and local plant species combined with stone gabion walls were used to stabilize the landslides.

Effectiveness of the Program

95. The program was considered highly successful in terms of its technical outcome that contributed to reducing landslide risk for the 30 HHs located just below the landslide areas. The integration of CFW benefitted 55 people, of whom 49% were women. It was also very effective in terms of technology transfer, as reflected in Pairobesi CFUG member, Mr Purna B. Ghale's confident and proud narration of the implementation method to the evaluator, who approached him as a non-technical person willing to learn the technique. Ghale showed confidence to replicate the intervention in other vulnerable sites in KhahareKholcha and BimireKholcha. The project is special as it was implemented on time by Pairobesi CFUG, led by a woman president who also sounded very confident in explaining the process. The project seemed very important as the site selected directly benefitted the affected settlement, reducing its landslide risk.


Plate 6: View of Settlement below bioengineering Site

96. Mr. Uttam Bahadru Thapa, president of Laharepauwa BZUC, noted that regular meetings and consultations with the local people had been instrumental in the ownership and the success of the projects carried out by the BZUC, which implemented several other activities in addition to soil bioengineering. These included debris management, water source conservation, water supply rehabilitation and tree planting[7]. It supported widely appreciated debris management work through CFW in eleven schools; rehabilitation of water supply systems in wards 4, 5,6, 7 and 8, and water source conservation with tree planting. The implementation of projects by CFUGs also helped build partnership with government line agencies, local government and other development partners.

GRR Considerations

97. The project was entirely based on a green approach to slope stabilization of landslides and erosion prone areas as it adopted the principles of the green recovery. The project used local materials like bamboo, local plant species and stone, and local labor. The simplicity of the technique made it easy to impart the knowledge to local people, especially to the women members involved in project implementation.

Implementation Issues and Challenges

98. In general, the overall projects implemented by Laharepauwa BZUC encountered several challenges like the unavailability of skilled labor for certain construction work, delayed fund transfer from the consortium partner, lengthy process of project approval, and complex documentation process.

99. Challenges specific to soil bioengineering projects included the difficulty in procuring good quality bamboo and collecting other construction material. The lack of timely completion of the civil engineering structures like the stone gabion walls delayed the start of the soft-core soil bioengineering work, resulting into overall delay in project completion.

100. One of the major challenges the community found was the selection criteria for other soil bioengineering sites for replication of the technique. Since the current technology has limited application that varies according to the slope, elevation and the nature of the erosion or landslide, deciding on the nature of the slope and other parameters by the community was found to be difficult. This issue was raised as a major concern by the people who were involved in implementation and who were willing to replicate the technology in other sites.

[7] Tree plantation was late due to lack of technical support but was completed in extended time schedule.

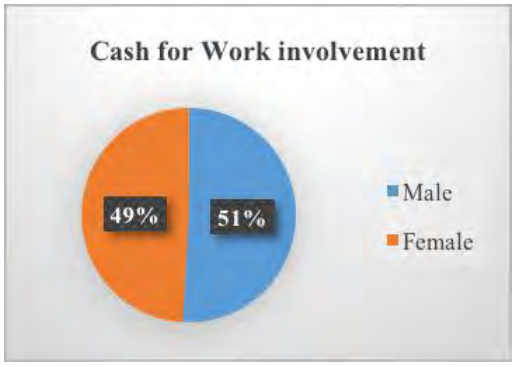


Figure 6 Cash for work distribution

Plate 7 Interaction with Stakeholders

14. CASE STUDIES: GORKHA DISTRICT

14.1 Disaster Context

101. Gorkha, with a population of more than 271,000, was perhaps the worst-affected district with the epicenter of the earthquake in Barpak, 15 km from Gorkha headquarters. According to the OSOCC Assessment Cell (2016), 412 people were reported killed and 1,034 injured as of 6 May 2015. The northern VDCs were the ones most affected due to remoteness and poor access. As with other mountain areas of Nepal, the earthquake devastated rural communities that earned their livelihoods largely from tourism activities, especially in Manaslu Conservation Area. Major effects of the earthquake included blockage of the foot/horse trails by landslides and floods. In addition to this, there was widescale destruction of housing, public infrastructure, water supply and irrigation systems, and micro-hydro infrastructure, resulting in livelihood losses.

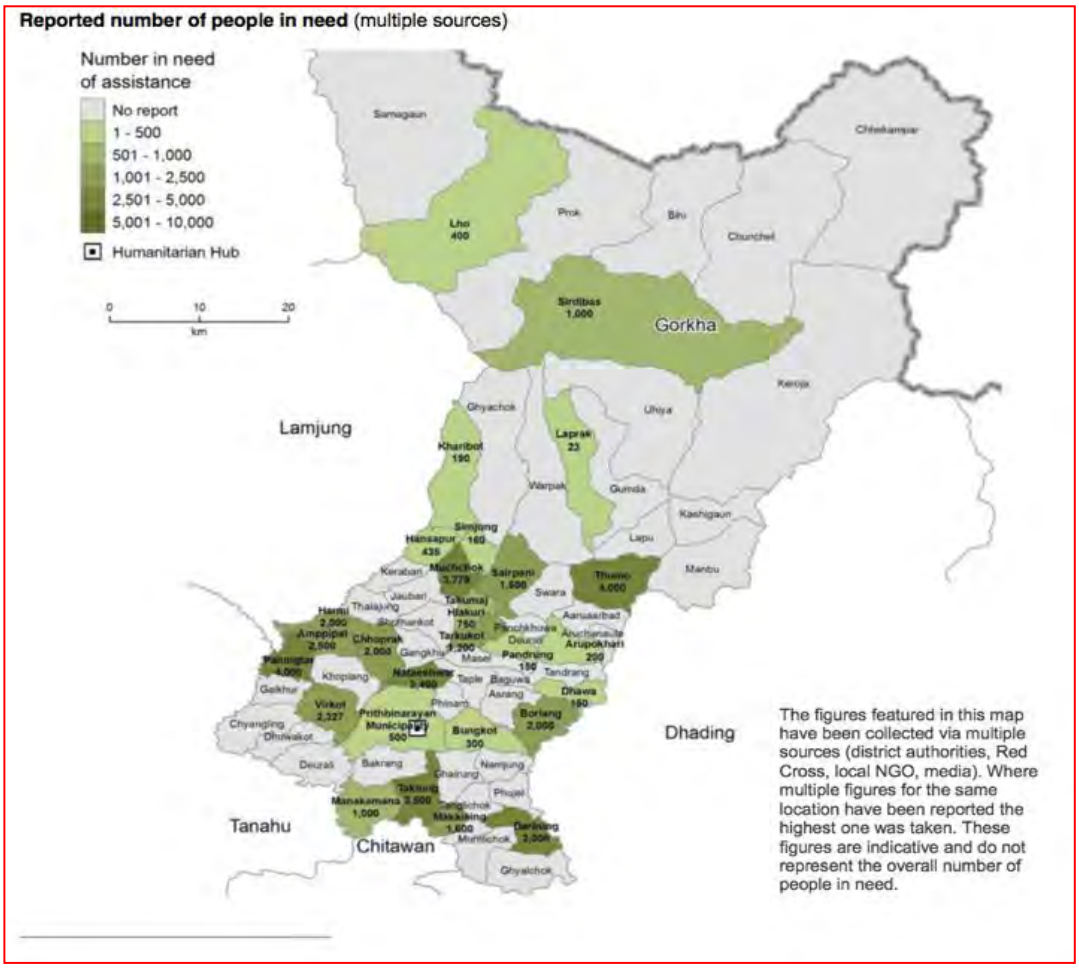


Figure 7 : Ward-Nepal Earthquake: Gorkha District Profile

102. A joint assessment by Hariyo Ban and a number of local implementing partners identified several reconstruction needs and priorities. These included emergency opening/clearing of access to remote mountain areas to fill information gaps on the disaster and supply emergency food and shelter; restore WASH and health services; improve food security; and provide equitable distribution of relief materials. Among these, Hariyo Ban mainly focused on WASH, livelihood and access improvement. NTNC intervened in emergency clearing of debris and opening up foot trails to restart the local economy through movement of people and goods.

103. CARE chiefly operated through its local implementing partner SSICDC in four of the most affected VDCs: Barpak, Simjung, Saurpani and Muchchok which were selected from the regular Hariyo Ban Program. According to CARE officials, its GRR work directly benefitted 5,907 affected people in its program districts, Gorkha (2664) and Dhading (3243), of which 47.87% were women. Major interventions by CARE included livelihood restoration through early recovery work, distribution of agricultural tools/seeds, livestock restocking, CFW, GESI, DRR training and planning, soil conservation and soil bioengineering training, and awareness campaigns.

- 1,002 HHs were given agriculture tools benefitting 80 single women, 275 women-headed HHs, 105 Dalit HHs and 474 poor HHs. 172 HHs benefitted from LIP support of which 123 were single women-headed HHs, 115 were women-headed HHs and 79 were Dalit HHs in earthquake-affected poor communities. 143 HHs benefitted from livestock restocking including 3 single women-headed HHs, 24 women-headed HHs, 21 Dalit HHs and 125 poor HHs in Gorkha and Dhading.
- 5,907 earthquake-affected HHs benefitted from CFW schemes with 2,828 women, 389 single women, 1,080 women-headed HHs, 755 Dalit HHs and 4,536 poor HHs. 69.49 km of foot trails and 14.58 km of irrigation

canal were rehabilitated/repaired/reconstructed. Debris was removed from 14 community buildings destroyed during earthquake.

- 16 orientation events were organized on sexual and reproductive health for adolescents which benefitted 459 adolescent girls and boys. Similarly, six orientation events on gender-based violence, trafficking and violence against women were held with 217 participants, including 6 single women-headed HHs, 19 women headed HHs and 9 Dalit HHs. Grants to 25 women's groups were supported in Gorkha to promote protection of women, adolescents, girls and marginalized groups by building their capacity for recovery.
- Two disaster risk management training events were organized in Gorkha and Dhading, and school and VDC disaster risk management plans were prepared for Dhading and Gorkha districts.

104. Apart from CARE Nepal's interventions, WWF Nepal, FECOFUN Gorkha and NTNC carried out interventions in different geographical areas of the district covering various types of priority activities. In Manaslu Conservation Area, NTNC carried out some major activities including trail improvement and trail rehabilitation along with several livelihood improvement projects.

14.1.1 Case Study Five: Trail Improvement Project

Project Brief

THE PROJECT:
Project: Trail Improvement Projects (Multiple)
Location: Manaslu Conservation Area
Implementing body: CAMC
Consortium Partner: NTNC

105. Due to several earthquake-induced landslides and monsoon floods, major tourist trails at Yarubagar, and Sirdi Khola of Chumchet were destroyed in Manaslu Conservation Area. 3.75 km of trails were rehabilitated in MCA, including 0.38 km at a difficult elevation in Sardi Bhir of Chumchet and Nyakphedi. A 2.7 km new track was opened around Dhurjung for the Chumchet – Bihi trail as an alternative route linking to Tsum valley and Bihi. Nine wooden bridges were constructed on the main trail to MCA and Rubinala trail route. Improvements were made in three campsites in Namrung in Prok, Lhi in Lho and Sama in Samagaun VDC.

106. NRs. 11,805,411 was provided for CFW in seven VDCs in MCA, Gorkha which generated 15,928 person days of employment, mainly for debris removal, trail rehabilitation and reconstruction of schools. The CFW initiative supported six gumbas, six kanis and one mani, 10 km of improved trails and 12 wooden bridges. The GRR program also supported GESI sensitive DRR, where TOT was provided to 21 participants from MCA including 7 LRPs and representatives of mothers' groups and CAMCs. Seven disaster risk reduction skill training sessions were given to mothers' groups in seven VDCs, benefitting 37 mothers' group members.

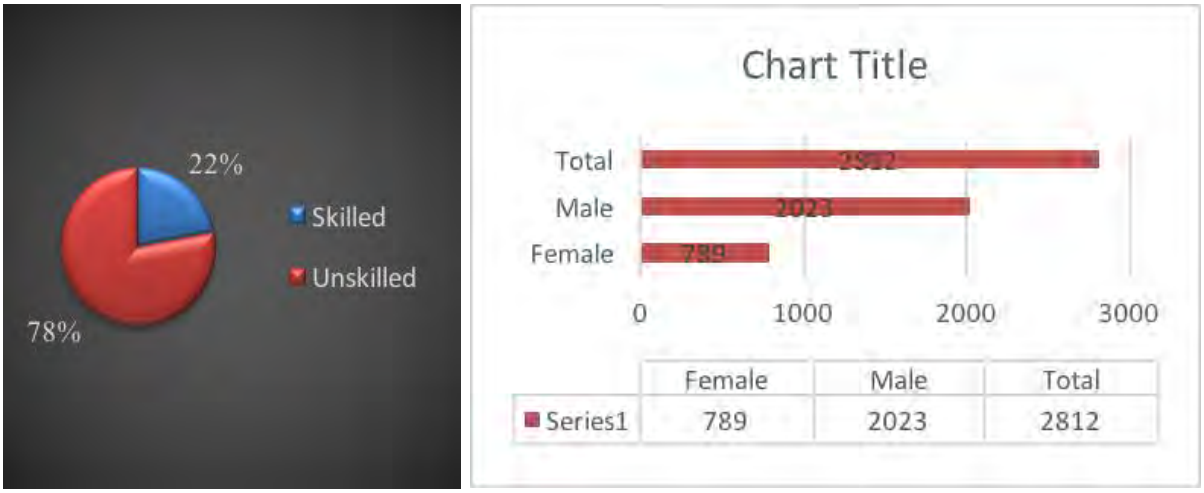


Figure 8: CFW distribution at MCA

Effectiveness of the Program

107. The impact of the trail rehabilitation is conspicuously prominent in the recovery of the tourism sector as evidenced in the number of tourists in MCA in 2016 (4,243). Numbers had drastically declined to 2,415 in 2015 from the pre-earthquake level of 5,918 in 2014. As reported by the Mule Management Committee (MMC), there was a significant increase to 1,500 mules plying on the trail per day after initial restoration, which was considered a good recovery in the local service economy sector. The project effectively contributed to restarting the local economy and social connections among affected people through the restoration of access which was cherished by the affected communities. CFW was very effective in contributing to restarting household economies by including single women, women-headed HHs and differently abled people. The key informant reported that CFW had a subtle effect in reducing gender-based violence as more women were participating and earning HH income through CFW.

Plate 8 Trail improvement at Nyakphedi and wooden bridge reconstruction on Rubinala trekking trail

© NTNC, Hariyo Ban Program (both photos)

108. The program was also effective in establishing partnerships between different stakeholders as evident in the joint initiatives of the MMC, NTNC, DDC, World Food Program and the UK Department for International Development for the restoration/improvement of access in MCA in terms of financial contribution, technical advice and implementation coordination. The training programs were instrumental in imparting knowledge on community based risk assessment, and identifying key issues and possible actions to solve them.

Implementation Issues and Challenges

109. One of the major challenges faced was the timing of the contract signing (January) for the project implementation which was close to the time (April) when people would be moving up in the mountains for yarchagumba[8] collection, followed by the monsoon season (August/September), resulting in delay of the project start date.

110. Like in other places, the issue related to equitable distribution of wages and the prevailing district CFW rates created operational challenges. Similarly, lack of smooth disbursement of funds to implementing partners resulted in delays in the work. The temporary management of the fund with personal initiation of the CAMC staff to pay for skilled workers brought from outside the district (as far as from Solukhumbu) was reported to be quite stressful. In addition to the difficulty of transportation of construction materials, NTNC officials were reported to have been stressed over their security while carrying the disbursed large amount to the remote project locations that required 2 to 3 days walking.

[8] Yarsagumba (*Cordyceps sinensis*) literally means summer plant and winter insect in Tibetan. Before the rainy season begins, spores of the *Cordyceps* mushroom settle on the heads of caterpillars that live underground.

111. A few planned interventions like portable solar power fencing and early warning systems were found to be challenging in terms of their implementation because of cost, procurement requirements, technological knowhow, and conflicting interests of the targeted beneficiaries. Shortage of resource persons caused the delay in DRM training and awareness programs.

GRR Considerations

112. While the overall implementation of activities contributed to the GRR practice in biodiversity conservation, GRR application at project implementation level could be observed in terms of the use of stone for producing aggregates. The CAMC encouraged use of dead, mature and old timber for rehabilitation of trails and construction of bridges which was instrumental in minimizing pressure on forests. Local vegetation was conserved during trail construction/rehabilitation by shifting plants to a new location for planting.

Plate 9 Bridge repair at Nawang khola, Sirdibas, and Bihi-Chumchet alternative route by NTNC

© NTNC, Hariyo Ban Program (both photos)

Plate 10: Discussion with Secretary of Chekampar CAMC

14.1.2 Case Study Six: Balphe Rangrung Khola Micro-hydro Project

Project Brief

113. Hariyo Ban supported rehabilitation and repair of several micro-hydro power structures to restore renewable energy so that deforestation and forest degradation could be avoided. Balphe Rangrung Khola Micro Hydro Project provides an example of good environmental practice.

114. Located at Barpak-2, this 4.7 KW capacity micro-hydro facility, constructed at a cost of approximately NRs. 135,000.00 in 2065/66, catered to 26 HHs in Balphe, Simalsuta, Kaliko, Rangrung and Danda settlements.

THE PROJECT:

Project: Balphe Rangrung Khola Micro Hydro Rehabilitation Project
Location: Barpak 2, Gorkha
Implementing body: SSICDC, Gorkha
Consortium Partner: CARE
Completion Period: 9 months

115. The intake, canal, forebay, penstock, powerhouse and transmission poles were badly damaged during the earthquake. The District Energy Office (DEO) carried out a damage assessment and survey, and estimated the cost of rehabilitation at over NRs. 660,000. The project was implemented by Tasarpakha CFUG under the aegis of SSICDC. The benefitting HHs belonged to the ethnic Tamang and Gurung community. Of the 26 HHs, four were displaced due to earthquake damage to their houses.

Effectiveness of the Program

116. The project was effective for a number of reasons. It was able to increase stakeholder participation working through the micro-hydro users committee (MHUC) where the rehabilitation project was discussed transparently; and the project was integrated with labor contributed free by the community (a value of over NRs 170, 000).

117. As many as 22 HHs directly benefitted, of which 36% were single women-headed HHs, and 23% were women-headed HHs. Positive impacts including contributing to the education of school children and household women. The project effectively built partnerships between the Hariyo Ban consortium partner, DDRC, DEO, MHUC and the implementing partner SSICDC.

118. In the group discussion, stakeholders made it clear that they considered the project to be successful. The implementing partners and the beneficiaries attributed success to the organizational efficiency in terms of community networking, transparency in the governance of the project, timely completion, and integration of the labor contribution which had proactive women's participation. Transparency was maintained as the project was discussed at the grass root level through the network of subgroups under the Tasarpakha CFUG at various stages.

GRR consideration

119. Although the Tasarpakha CFUG was involved in a number of green recovery activities like plantation of *amriso,* in its operational area, the GRR concerns in this project seem to be reasonably met. One major activity that contributed to GRR was evident in the replacement of 30 existing wooden transmission line poles with iron poles provided by Hariyo Ban. According to Mr. Tek B. Gurung, Chairman of Balpherangrung MHCU, this saves the cutting of 30 big trees every year to replace the wooden poles. The aggregates required for maintenance were locally produced from legally available river stone. In this community, improved metal cooking stoves were also provided to all the households which reduce firewood collection pressure on the forest. Two wooden bridges were reconstructed from dead wood to reach the micro-hydro site.

Implementation challenges and successes

120. This project was implemented smoothly without much complication. The discussion with beneficiaries and other stakeholders indicated that reasons for success were the transparency maintained in information dissemination, proactive NHUC, partnership with DEO, clear and precise work schedule, progress-based disbursement of the funds, and continuous monitoring.

Plate 11 Rehabilitation of Balphe Rangrung Khola Micro Hydro Project

14.1.3 Case Study Seven: Livestock Restocking Support in Barpak

Project Brief

121. As of October 2016, 289 HHs in program VDCs under CARE were supported with livestock restocking, including Barpak. The livestock restocking helped forest-dependent families whose LIPs had been supported by Hariyo Ban's regular program before the earthquake. In addition to this, livestock was distributed to 'affected and socio-economically vulnerable people'. The post disaster LIP work was implemented as a part of the action project identified in the LDRMP with the support from Hariyo Ban's DRR initiatives. A block grant was disbursed through consortium and implementing partners. Vulnerable people to receive support were selected judiciously through vulnerability community assessment (VCA) and then a cash grant was distributed for livestock restocking/stocking.

Effectiveness of the Program

122. The program was very effective, especially for those HHs who were living with existing socio-economic vulnerability. Poor and socially outcast HHs were targeted. Within the target group, single women-headed HHs, women-headed HHs and poorest of the poor families were targeted. In Barpak VDC alone, as many as 30 HHs benefitted from livestock restocking support, and 25 HHs through LIP under the LDRMP of the VDC. In discussion with beneficiaries it was made clear that the project was vital for them because of the economic protection it provided to them. It addition, it contributed to improvement of social protection (viz. reduction of domestic violence).

Implementation challenges

123. Although immensely successful, implementing partners faced challenges in the distribution of limited grants across the settlement as it was not possible to cover all the needy population. This created some impediments during the initial stage of project implementation which was eventually overcome with better coordination with the VDC level disaster management committee.

Box -5 Story of Bishnu Maya Sunuwar, Gorkha

Bishnu Maya Sunuwar, a Dalit from Gairigaon, Barpak-5, is a literate woman. She lives with her mentally ill husband and three other family members including two school-going children. Her livelihood is based on her work as a paid farm worker, and irregular rental from a tractor she bought with a loan of NRs. 30,000. Her household expenditure is about NRs. 7,000 per month excluding the cost of medicines for her husband and the loan repayment for the tractor. She lost her house built on 169 sq m of farmland, along with all her livestock during earthquake. After that she had to live in a camp for internally displaced people for over a year. She then moved into a makeshift house on rented land. She received a Hariyo Ban grant for livestock before the earthquake, and was a recipient of a livestock restocking grant under the GRR program.

"The Hariyo Ban Program gave me NRs. 10,000 before the earthquake to buy a sheep. The sheep had given birth to three lambs and it was pregnant again. I was expecting a good return but the earthquake killed them all. If they were alive, I could have sold them for NRs. 15,000-18,000 each. I have now bought another sheep with the NRs 20,000.00 restocking grant Hariyo Ban gave me. I am very happy to receive it as I find raising livestock is easy for me and I know how to generate income from it. I thank the Shuva Kamana Learning Center for making me aware of the program and hope the god will have mercy on us this time."

14.1.4 Case Study Eight: Bhagawati Lower Secondary School (Community-based Disaster Risk Management Plan-2073)

Project Brief

THE PROJECT:
Project: Bhagawati Lower Secondary School, Community-based Disaster Risk Management Plan (CDRMP)
GPS location: E 84.12 N 28.18 E: 1373 M
Location: Barpak 2, Mandre Gorkha
Implementing body: SSICDC, Gorkha
Consortium Partner: CARE

124. Significant damage occurred to school infrastructures in Gorkha District during the disaster; they had no disaster risk management plans. Hariyo Ban supported the preparation of disaster risk management plans for 20 schools, and LDRMPs for VDCs so that CFUG and school capacity in DRR could be enhanced. It also supported partial implementation of the school plans, focusing on school water source protection in pilot sites.

125. Bhagawati Lower Secondary School Climate and Disaster Risk Management Plan is one example. Established in BS 2035, the school was destroyed during the Gorkha earthquake. It has moved to a new location 5 minutes' walk from the old site, on private land with makeshift buildings with 9 rooms, built by donors and welfare agencies in the district. There are 205 students in the school who, before LDRMP implementation, lacked basic infrastructure like clean drinking water and toilet facilities. As a part of LDRMP implementation the school carried out wire fencing, debris removal, and planting of local plant species in the original location.

126. The plan was prepared through a participatory approach within the government's disaster risk management preparation framework and was implemented by Tasarpakha CFUG under the aegis of CARE's technical support and training on disaster management. The community-based disaster risk management plan (CDRMP) was integrated with the school improvement program (SIP). The stakeholders feel that the preparation of the school disaster risk management plan made them confident for the coordinated and systematic development of school

infrastructure to reduce disaster risk. Hariyo Ban support to the new site included a water filter, stands and dust bin in each classroom and a waste disposal pit to improve the WASH environment. The school is regularly carrying out preparedness exercises for the students.

Effectiveness of the Program

127. The disaster risk management program was found to be generally effective for the improvement of the overall school infrastructure development by integrating it with SIP. The awareness of the students and teachers alike was found to have increased and they were better prepared to cope with the disaster situation. The WASH support was instrumental for the school to achieve better health and sanitation. The CDRMP was found to be helpful for the school management committee to better plan the budget and coordinate with other institutions working in the field of disaster management. It directly benefitted the ten teachers and 205 students, of which 98 are female and 107 are male students.

128. In the group discussion it was clear that the stakeholders considered the project was successful as they were much more aware about disaster preparedness and coping mechanisms.

Implementation challenges

129. The disaster risk management plans of schools prepared within the government framework under Hariyo Ban's DRR component need improvement in their content, despite being successful in initiating several risk reduction projects and gratefully received by the beneficiaries. The plans lack integration of GRR practice in infrastructure development work in schools, and dedicated space for storing emergency equipment and kits. There are no contingency plans for classrooms in case of emergency evacuation, including the layout of benches, exit doors, circulation space and other pre-requisites.

15. CASE STUDIES: DHADING DISTRICT

15.1 Disaster Context

130. According to the OSOCC Assessment Cell (2016), 718 people were reported killed and 702 people injured in Dhading district as of 11 May 2015. Initial government estimates were of 20,000 buildings destroyed in the district, and 15,000 damaged. According to initial assessment reports, 90% of housing damage occurred in 21 VDCs, and 70% in 18 VDCs. In addition to this, there was widescale destruction of public infrastructure, water supply systems, irrigation and micro-hydro infrastructure, resulting in livelihood losses.

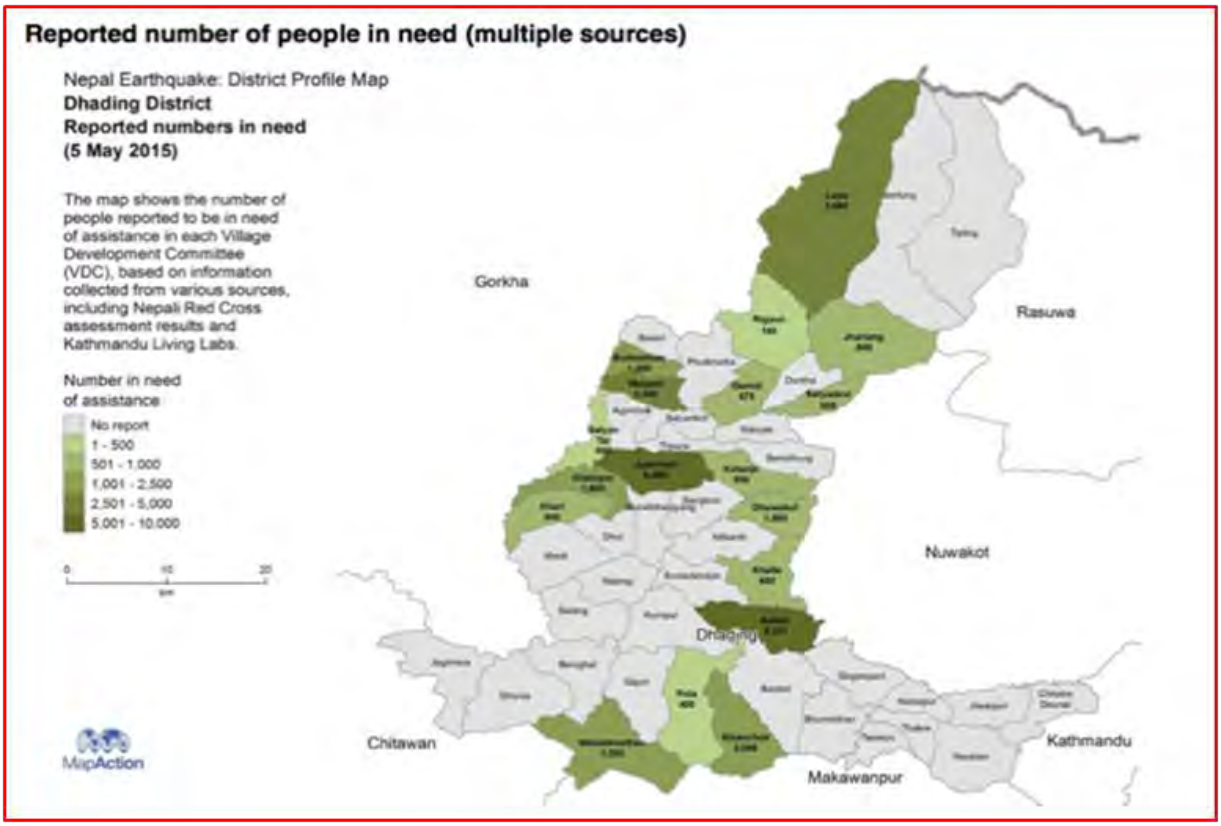


Figure 9: Nepal Earthquake: District Profile, Dhading

131. CARE chiefly operated in six of the most affected VDCs: Salyantar, Mulpani, Budhathum, Phoolkharka, Baseri and Aginchok, through its local implementing partner Sahayatri Samaj Nepal. According to CARE officials, the GRR program directly benefitted 5,907 affected people in its program districts Gorkha (2664) and Dhading (3243), of whom 47.87% were women. Major interventions by CARE included livelihood restoration through early recovery work, distribution of agricultural tools/seeds, livestock restocking, CFW, GESI, DRR training and planning, soil conservation and soil bioengineering training, and awareness campaigns.

132. 1,002 HHs were given agriculture tools, benefitting 80 single women, 275 women-headed HHs, 105 Dalit HHs and 474 poor HHs. 172 HHs benefitted from LIP support including 123 single women, 115 women-headed HHs and 79 Dalit HHs., 143 HHs benefitted from livestock restocking activities including 3 single women, 24 women-headed HHs, 21 Dalit HHs and 125 poor HHs in Gorkha and Dhading (See details in paragraph 93).

15.1.1 Case Study Nine: Soil bioengineering at Budathum-5

Project Brief

THE PROJECT:
Consortium Partner: FECOFUN
Implementing Partner: Laharepauwa BZUC
Location: Laharepauwa-5
27°58'33" N 85°10'59" E
3220 ft. Elevation

133. Among the various soil bioengineering pilot sites supported by Hariyo Ban, an important one was in Besarekhet, Budhathum in Dhading district. Besides benefits from stabilizing a landslide, the activity provided a demonstration site where soil bioengineering techniques could be discussed, along with implementation methods.

134. The landslide in Besarekhet caused by the Gorkha earthquake had a surface area of roughly 700 sq m; it was selected for soil bioengineering work to reduce the

landslide vulnerability of the settlement located just above it. CARE implemented the program through its local implementing partner Sahayatri Samaj Nepal. On the ground, Besarekhet Kaasekhola Landslide Control Users Committee, led by a woman president, successfully carried out the implementation work with onsite technical training provided by Hariyo Ban. As in other soil bioengineering sites, local materials like bamboo and local plant species in combination with stone gabion wall were used to stabilize the landslide.

Effectiveness of the Program

135. The program was considered successful in terms of its technical outcome. According to the president of the landslide control users committee, the project directly benefited the entire settlement of 300 HHs located above the project site, of which 10 HHs were Dalit. More than 59% women and 41% Dalit population directly benefited from the project. The disaggregated data indicated that above 56% of beneficiary households were headed by women, and 10% by single women. The project implemented through CFW contributed to restarting the household economies of 50HHs. The project was implemented on time by the users committee; the woman president sounded very confident in explaining the process of implementation. The project seemed very important as it directly benefitted the affected people, reducing their vulnerability to the landslide.

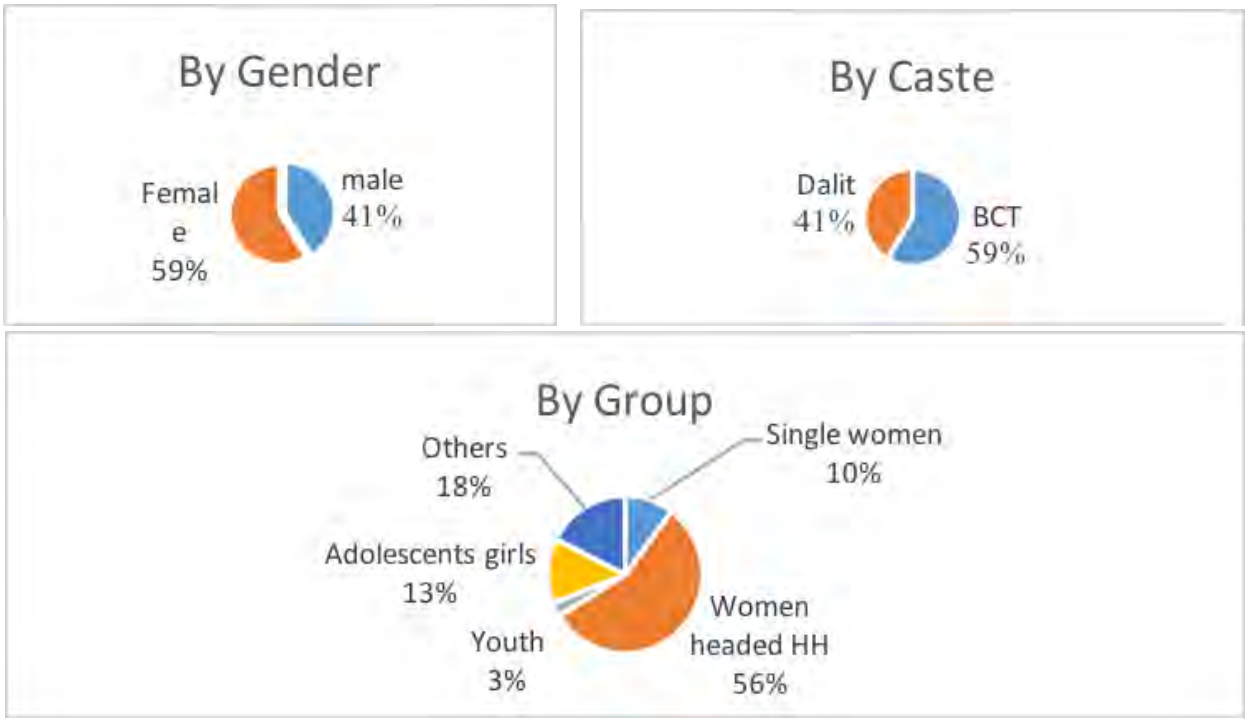


Figure 10: Beneficiaries of the Project Site

GRR Considerations

136. The project was entirely based on a green approach to slope stabilization of landslide and soil erosion prone areas, adopting principles of green recovery. The project used local materials like bamboo, local plant species and stone, and local manpower. The simplicity of the technique was instrumental in imparting knowledge to the local people, especially women members involved in project implementation.

Plate 12: Bioengineering using crib walls and allied techniques

Implementation Issues and challenges

137. Challenges specific to this soil bioengineering project were related to the failure of the first stabilization project done towards the north-east side which was swept away during the rainy season. The assessment made during the site analysis and spots chosen for the first intervention were flawed because behavior of flash floods was not taken into consideration. It can therefore be concluded there were limitations in terms of knowledge transfer of engineering aspects of project site selection. This coincided with the opinion of the local implementer of Pairobesi soil bioengineering site (paragraph 100). Here too, the community found that the identification of sites for further replication of the technique needed to be elaborated so that basic parameters of site selection could be made easily understandable by the local people.

Plate 13: Field evaluation and the view of swept away crib wall

138. Other challenges included the difficulty in procuring good quality bamboo and collection of other construction material. The lack of timely completion of the civil engineering structures like the stone gabion wall delayed the start of the soft-core soil bioengineering work, resulting in delay of project completion. The long-term sustainability of the project in terms of maintenance and operation is not well thought through, as there is no mechanism for maintaining the plantations.

BOX 6:
Opinion of Mr. Niranjan Shrestha,
District Soil Conservation Officer

Mr. Shrestha, District Soil Conservation Officer in Dhading, had very positive experience regarding Hariyo Ban project implementation in Dhading district. He explained that partnership between government line agency and the development partners is important in order to mobilize resources and raise awareness regarding watershed management to reduce disaster vulnerability. He opined that "Specializing in the field of watershed management and prioritizing in terms of landslide susceptibility, soil erosion and demographic features, we are looking forward to an opportunity to reach out to the grassroots level of the community. In such cases, NGOs on the ground and sufficient resources are always welcome to promote the collective goal". Apart from some minor technical issues such as delay in contract signing and some inevitable natural hindrances from the monsoon, projects were completed with great joy and ownership in the community. Mr. Shrestha seemed a little disheartened about the phasing out of the Hariyo Ban Program in Dhading, and implored for the program to continue in a more effective manner in the coming days.

15.1.2 Case Study Ten: Mahendrodaya Secondary School (CDRMP 2073)

Project Brief:

139. Hariyo Ban recovery activities supported the preparation of school disaster risk management plans and the LDRMPs of VDCs so that CFUG and school capacity in DRR could be enhanced.

140. The Hariyo Ban Program conducted two trainings on education in emergencies for teachers, school management committees and students, with 57 participants (23 women) in Gorkha and Dhading

THE PROJECT
Project Disaster Risk Management Plan and WASH
Location: Mulpani 5-Dhading
28°0'33" N 84°53'7" E
Elevation 4090 ft.
Implementing body: Sahayatri Samaj Nepal/ Mahendrodaya Secondary School
Consortium Partner: CARE Nepal

districts. The program provided support for preparation of seven school disaster risk management plans in Dhading. Hariyo Ban also worked with school management committees to enhance their capacity in DRR and management, and to encourage schools to incorporate inclusive DRR and green recovery principles and practices in school improvement plans.

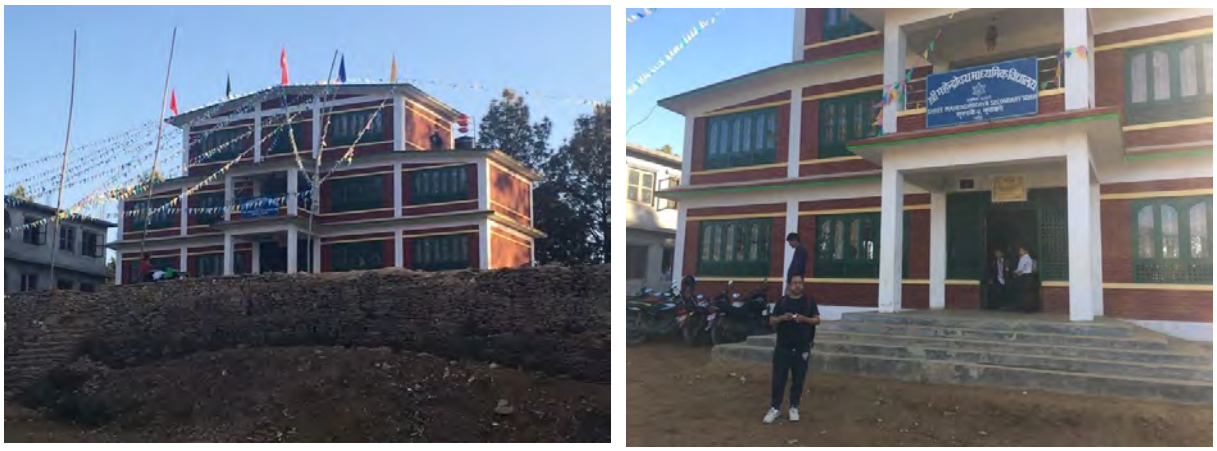


Plate 14: Mahendrodaya School

141. Mahendrodaya Secondary School in Mulpani-5, Dhading, prepared a climate and disaster risk management plan as a part of its DRR strategy and was implementing various interventions in the plan at the time of the evaluation. Some of the major activities were closely linked with WASH. Hariyo Ban supported construction of a water tank and female toilet in the school grounds. The water tank is expected to be in use after installation of an aeration system.

Effectiveness of the project

142. The project has significantly informed the school management committee, teachers and students on various aspects of DRM. It has significantly improved the sanitary hygiene of students and reduced vulnerability. Preparation of the disaster risk management plan with participation of the school committee, and awareness campaigns and training for students and teachers, has made them aware about the vulnerabilities they are exposed to and possible mitigation measures.

Implementation Issues and Challenges

143. The school disaster risk management plans prepared within the government framework under the DRR component needs improvement in content, despite being successful in initiating several risk reduction projects and gratefully received by the beneficiaries. The plan lacks integration of GRR practice in infrastructure development work, and dedicated space for storing emergency equipment and kits. Also lacking is a contingency plan for classrooms in case of emergency evacuation, including the layout of benches, exit doors, circulation space and other pre-requisites.

Plate 15: Water tank and aeration project (WASH Program)

15.1.3 Case Study Eleven: Lift Irrigation Support for Livelihood Improvement Project

Project Brief:

144. Under the livelihood improvement component the GRR program supported a water-lifting facility for irrigation for earthquake affected people in Benipakha, Benighat, Dhading, to increase income from sustainable sources of livelihoods for forest dependent communities. Twelve submersible water pumps for lifting water from the Trishuli River were distributed to various groups in 65 HH who owned 250 ropani[9] of land. With the help of the lift irrigation system, the community started cash crop production. A tiller was provided for tilling the fields. Sixteen-week trainings were given to women. The project was implemented by consortium partner FECOFUN, and Benipakha CFUG implemented the program on the ground.

THE PROJECT
Project: Water Pumping system for irrigation
Location: Benipakha, Benighat Dhading
Implementing body: Benipakha CFUG
Consortium Partner: FECOFUN

Effectiveness of the program:

145. The project is one of the most successful projects in terms of the multiple benefits extended to the 65 HHs with an investment of less than $2000. The households comprise: 13 Dalit HHs, 12 Janajati HHs, and 40 Brahmin and Chhetri HHs. Four HHs are single women. After the implementation of the project, agricultural productivity increased by over three times. Households are now able to trade their crops through the cooperative they formed, the Green Agricultural Cooperative. Households have increased their savings. In a focus group discussion, it was learnt that the increase in HH income and women's savings resulted in

[9]508.74 sq. m = 1 Ropani = 16 Anna = 5476 sq. ft.

increasing women's confidence in decision-making and reducing domestic violence. Women have been able to spend more time with their children and on other social activities as they do not have to work as paid laborers any more. The community was motivated to construct a water reservoir tank by persuading the DDC to help them with cash. Mothers' groups were very proactive in the successful implementation of the project.

Plate 16: Livelihood Support through Lift Irrigation

Implementation Issues and Challenges:

146. The main challenge was the creation of a maintenance fund for repairing of water pumps; when pumps stopped working, some individual HHs started investing in their own pumps, leaving behind those households holding smaller parcels of land with limited income. Similarly, opportunities for poor landowners had difficulties in accessing markets.

BOX 7:
Story of Januka Rupakheti, Dhading

Januka Rupakheti, secretary of Harit Krishi Sahakari Sanstha is very happy and confident about the success of the project. She expresses her joy: "Now I can bear the expenses of my family including education of my children and we can save money for my husband who wants to start up a different business. I have received appreciation from my relatives as well." Ms. Upakheti mentions that the program has changed her own social status as well as for others in her village. She does not have to go to work as a laborer any more and she can spend time with her children and help them in their studies. She said that access to economic activities for women earned them respect and there has been reduction in domestic violence.

APPENDIX 1: Information Sheet of Four Districts

INFORMATION SHEET OF FOUR DISTRICTS						
S.NO.	DISTRICTS	CONSORTIUM PARTNERS	LOCAL PARTNERS	LIST OF ACTIVITIES	TOTAL BUDGET	REMARKS
1	NUWAKOT	FECOFUN	CFUG/Committee	Irrigation canal maintenance		
				Water Supply Rehabilitation Projects		
				Improve Foot Trails		
				DRR Programs		
				Bamboo Plantation		
				Livelihood Programs		
				WASH Program		
				Non-Renewable Energy		
				GESI Programs		
2	RASUWA	WWF NEPAL	BZUG/C	Cash for Work (Tourist Trail, Debris Removal, Drinking Water Maintenance etc.)		
			LACCoS	Alternative Energy (Metallic Improved Cook Stoves (MICs), Electrical Energy Devices)		
				Program Support Cost		
				Landslide Protection through Plantation		
				Fencing and Iron Flag Poles		
				Eco Tourism Recovery (WASH, Trash Disposal, Sign Posts etc.)		
				Community Based Red Panda Monitoring (in-kind support and Consultant)		
				Monitoring		
				Strengthen Community-Based Anti-Poaching Units (CBAPUs)		
		FECOFUN	CFUG	Foot Trails (CFW and others)		
				Alternative Energy (Solar Panel Distribution)		
				Irrigation Programs		
				Water Supply Distribution Rehabilitation Program		
				Livelihood Programs		
				DRR Program at Schools		

				Information and Awareness		
				Strengthening CFUG		
3	DHADING	CARE NEPAL	Sahayatri Nepal	Cash for Work (Tourist Trail, Debris Removal, Drinking Water Maintenance etc.)		
				Alternative Energy (MICs, other electronic devices)		
				Program Support Cost		
				Landslide Protection through Plantation		
				Fencing and Iron Flag Poles		
				Eco Tourism Recovery (WASH, Trash Disposal, Sign Post etc.)		
				Community Based Red Panda Monitoring (in-kind support + Consultant)		
				Monitoring		
				Strengthening CBAPUs		
		FECOFUN	CFUG	Foot Trails (Cash for Work and Others)		
				Alternative Energy (Solar Panel Distribution)		
				Irrigation Programs		
				Water Supply Distribution Rehabilitation Program		
				Livelihood Programs		
				DRR Program in Schools		
				Information and Awareness		
				Strengthening CFUGs		
4	GORKHA	NTNC	MCA	Cash for Work (Tourist Trail, Debris Removal, Drinking Water Maintenance etc.)		
				Alternative Energy (MICs, Electrical Energy Devices)		
				Program Support Cost		
				Landslide Protection through Plantation		
				Fencing and Iron Flagpoles		
				Eco Tourism Recovery (WASH, Trash Disposal, Sign Posts, etc.)		

				Community Based Red Panda Monitoring (in-kind support+ Consultant)		
				Monitoring		
				Strengthening CBAPUs		
		FECOFUN	CFUG	Foot Trails (Cash for work and Others)		
				Alternative Energy (Solar Panel Distribution)		
				Irrigation Programs		
				Water Supply Distribution Rehabilitation Program		
				Livelihood Programs		
				DRR Program at Schools		
				Information and Awareness		
				Strengthening CFUGs		
		CARE NEPAL	SSICDC	Cash for Work (Tourist Trail, Debris Removal, Drinking Water Maintenance etc.)		
				Alternative Energy (MICs, other electronic devices)		
				Program Support Cost		
				Landslide Protection through Plantation		
				Fencing and Iron flag Poles		
				Eco Tourism Recovery (WASH, Trash disposal, Sign Post etc.)		
				Community Based Red Panda Monitoring (Kind support+ Consultant)		
				Monitoring		
				Strengthen CBAPUs		
		WWF NEPAL	CFUG	Landslide Protection through Plantation and Bio Engineering		

APPENDIX 2: List of GRR Training and Workshops conducted

List of Green Recovery and Reconstruction Trainings, Workshops and Number of Participants from September 2015 to November 2016				
S.No.	List of GRR Events	No. of Participants	Date of Training	Remarks
1	GRR Training and roll out earthquake recovery program to Hariyo Ban consortium partners - Kathmandu	52	Sept 20-23, 2015	Four-day Program
2	GRR training and roll-out earthquake recovery program to consortium and implementing partners of Nuwakot and Rasuwa - Nuwakot	27	Nov 23-25, 2015	Three-day Program
3	GRR training and roll-out earthquake recovery program to consortium and implementing partners of Gorkha and Dhading - Kurintar	29	Nov 26-27, 2015	Two-day Program
4	GRR training for MoUD and DUDBC Architects and Engineers - Godawari	35	Dec 18-19, 2015	Two-day Program
5	GRR training for DDRC Members of Gorkha - Kurintar	33	Jan 8-9, 2016	Two-Day Program
6	GRR training for DDRC Members of Dhading - Kurintar	39	Jan 22-23, 2016	Two-Day Program
7	Media Sensitization Workshop for radio journalists - Kathmandu	32	28-Jan-16	One day Program
8	Media Sensitization Workshop for media houses - Kathmandu	47	Feb 03-04, 2016	One day Program
9	GRR for WASH Professionals - Godawari	35	Feb 16-17, 2016	two day Program
10	GRRT and Timber Treatment to Forest Officer from 31 earthquake affected districts - Dhulikhel	66	March 27-29, 2016	Three day Program
11	GRR training for DDRC Members of Nuwakot - Nuwakot	55	April 05-06, 2016	two day Program
12	GRR training for DDRC Members of Rasuwa - Rasuwa	39	April 07-08, 2016	two day Program
13	GRR Workshop for DDRC Members of Sindhupalchok - Chautara	17	12-May-16	One-day Program
14	GRR Workshop for DDRC Members of Dolakha - Dolakha	28	8-Jun-16	One-day Program
15	GRR Workshop for DDRC members of Ramechhap - Ramechhap	41	9-Jun-16	One-day Program
16	GRRT for District engineers and sub-engineers from Department of Education - Bhaktapur	117	14-Jul-16	One-day Program
17	GRR Workshop for Government Line Agencies and I/NGOs of Nuwakot	35	29-Aug-16	One-day Program
18	GRR Workshop for Government Line Agencies and I/NGOs of Rasuwa	16	31-Aug-16	One-day Program
19	GRR Workshop for Government Line Agencies and I/NGOs of Gorkha	41	20-Sep-16	One-day Program
20	GRR Workshop for Members of Parliaments and political leaders - Godawari	25	25-Sep-16	One-day Program
21	GRR Workshop for Members of Parliaments and political leaders - Dhulikhel	21	22-Oct-16	One-day Program
22	ToT for Mason Trainers - CTEVT/TITI - Balaju, KTM	25	Oct 19-27, 2016	Nine-day Program
23	GRR public service announcement training for community radio journalists - Kathmandu	22	27-Oct-16	One-day Program
24	GRR Workshop for Members of Parliament and political leaders - Dhulikhel	15	5-Nov-16	One-day Program
25	GRR Workshop for Members of Parliament and political leaders - Dhulikhel	18	12-Nov-16	One-day Program
26	ToT for Mason Trainers - CTEVT/TITI - Gorkha	25	Nov 22-30, 2016	Nine-day Program
27	Soil bioengineering training to Community members	88		Four Districts
	Total	1023		

APPENDIX 3: List of People Consulted

Date: November 17, 2016

Location: Okhle, Kakani -1, Nuwakot

Time: 11:00 – 14:00

List of Resource Persons for "Water Supply Distribution Project" at Rani Pauwa, Kakani 1- Nuwakot

S. No	People Consulted	Organization	Designation
1	Thulimaya Lama	Shree Chhapgairi CFUG	President
2	Rabindra Lama	CFUG Sub-Committee	Member
3	Narayan Nepal	FECOFUN	Pr. Officer
4	Pramila Wagle	Hariyo Ban Program	Co-coordinator
5	Pramisa Lama	Shree Chhapgairi Community Forest User's Group	Secretary
6	Lajita Lama	Shree Chhapgairi Community Forest User's Group	Treasurer
7	Kanchi Maya Lama	Shree Chhapgairi Community Forest User's Group	Member
8	Shree Maya Lama	Shree Chhapgairi Community Forest User's Group	Member
9	Sunita Lama	CFUG Sub-Committee	Member
10	Thulimaya Tamang	CFUG Sub-Committee	Member
11	Krishna Maya Lama	CFUG Sub-Committee	Member
12	Samjhana Lama	CFUG Sub-Committee	Member
13	Suresh Lama	CFUG Sub-Committee	Member

Date: November 17, 2016

Location: WWF Office, Dhunche

Time: 18:00-19:00

Title: List of consulted people at Rasuwa, Dhunche regarding different projects.

S. No	People Consulted	Organization	Designation
1	Gautam Paudyal	WWF	Program Manager
2	Rajan Rijal	WWF	Finance and Admin Officer
3	Rai Bdr. Rai	WWF	PA
4	Arun Belbase	WWF	PA
5	Lilanath Neupane	FECOFUN	District President
6	Hemnath Khatiwada	FECOFUN	Member
7	Sarita Thapa Magar	WWF	

Date: November 17, 2016

Location: Thulo Syafru, Red Panda Anti-Poaching Office

Time: 12:00-16:00

Title: List of consulted people at Thulo Syafru regarding different projects by Suryakunda Buffer Zone Users Committee

S. No	People Consulted	Organization	Designation
1	Pemo Dorje Tamang	Suryakunda BZUC	President
2	Finjo Tamang	Digo Bikash Gaaun Samanwyaup Samiti	President
3	Serop Syangbo Tamang	" "	Member
4	Tshiring Finjo Tamang	" "	Member
5	Davang Finjo Tamang	" "	Member
6	Sonam Dharde Lama	" "	Member
7	Tse Tsung Tamang	Secondary School	Principal
8	Kippa Tamang	Gosaikunda Sanskritiaamasamuha	Vice-President
9	Dawa Khendo Tamang	" "	Member
10	Nappu Dorje Tamang	Naddanchechorisikaariniyantransamuha	President

Date: November 18, 2016
Location: Namaste Gosaikunda hotel, Dhunche- Rasuwa
Time: 18:00-21:00
Title: List of consulted people at Dhunche regarding institutional co-ordinations issues and challenges of GRR program

S. No	People Consulted	Organization	Designation
1	Uma Paudel	District Forest Office	District Forest Officer
2	Ishwor Kumar Lama	LACCoS	Member
3	Amrit Ghale	LACCoS	Member
4	Ramesh Ghale	LACCoS	Member
5	Jennifer Brady	School for International Training	Student
6	Arun Belbase	WWF Nepal	Program Associate
7	Pema Nitul Sherpa	Langtang National Park Buffer Zone Support Project (LNPBZSP)	CM
8	Rai Bahadur Rai	LNPBZSP	Program Associate
9	Rajan Rijal	LNPBZSP	Finance & Admin Officer
10	Sarita Thapa Magar	LNPBZSP	CM
11	Sabina Thapa Magar	LNPBZSP	CM
12	Upasana Shrestha	LACCoS	Info & Monitoring Officer
13	Ramesh Humagain	District Agriculture Development Office (DADO), Rasuwa	DADO Chief
14	Gautam Paudyal	LNPBZSP/ WWF	Program Manager

Date: November 19, 2016
Location: FECOFUN
Time: 13:00-17:00

Title: List of consulted people at Rasuwa, Kalikasthan (FECOFUN) regarding different projects.

S. No	People Consulted	Organization	Designation
1	Lilanath Neupane	FECOFUN	District President
2	Hemnath Khatiwada	FECOFUN	Member
3	Sarita Thapa Magar	FECOFUN	Treasurer
4	Shanti Maya Syangbo	FECOFUN	Staff

Date: November 20, 2016
Location: Laharepauwa VDC
Time: 10:00-13:00
Title: List of consulted people at Laharepauwa BZUC and Site regarding different projects done by the group and specifically Soil bioengineering works.

S. No	People Consulted	Organization	Designation
1	Uttam Bahadur Thapa	Lahare Pauwa BZUC	District President
2	Som Lal Lawat	Lahare Pauwa BZUC	Secretary
3	Mina Kumari Neupane	Lahare Pauwa BZUC	Treasurer
4	Gyanu Thapa Magar	Pahiro Besi CFUG	President
5	Purna Bahadur Ghale	Pahiro Besi CFUG	Secretary

Date: December 1, 2016
Location: Gorkha Nagarpalika, Gorkha
Time: 09:00-14:00
Title: List of consulted people at office of Manaslu Conservation Area Project (MCAP) with NTNC official and beneficiaries.

S. No	People Consulted	Organization	Designation
1	Bishnu Singh Thakuri	NTNC	Conservation Officer (Program)
2	Raj Kumar Gurung	MCAP	Project Coordinator
3	Tashi Dorje Lama	Chekampar CAMC	Secretary
4	Dependra Gurung	Sirdibas CAMC	Secretary

Date: December 1, 2016
Location: Gorkha Nagarpalika, Gorkha
Time: 09:00-14:00
Title: List of consulted people at office of CARE

S. No	People Consulted	Organization	Designation
1	Arun Adhikari	CARE NEPAL	Field Coordinator
2	Bishnu Nepali	CARE NEPAL	Office Personnel

Date December 2-3, 2016
Location: Barpak 2, Gorkha

Time:
Title: Shree Bhagwati Lower Secondary School, Barpak 2, Gorkha

S. No	People Consulted	Organization	Designation
1	Rajendra Gurung	Shree Bhagwati Lower Secondary School (SBLSS), Barpak 2, Gorkha	Principal
2	Sita Ram Dawati	SBLSS	Teacher
3	Dil Bahadur Ghale	SBLSS	Teacher
4	Dhan Bahadur Gurung	SBLSS	Teacher
5	Bir Bahadur B.K.	SBLSS	Teacher
6	Bishal Gurung	SBLSS	Teacher
7	Migma Gurung	SBLSS	Teacher
8	Dhan Kumari Gurung	SBLSS	Teacher
9	Amrit Gurung	SBLSS	Teacher
1	Tek Bahadur Gurung	Balphe-Rangong Khola Laghu Jalbidyutaayojana	President
2	Min Bahadur Gurung	Balphe-Rangong Khola Laghu Jalbidyutaayojana	Secretary
1	Buddhi Bahadur Tamang	Mausuli Pakha CFUG / Furbu Jetar Irrigation project Simjung-5 Tar	Ex-President

Date:December 4-6, 2016
Location: Dhading
Time: Varies
Title: Interaction with different stakeholders at different locations at Dhading

S.No	**Personnel's Consulted**	Organization	Designation
1	Shankar Bahadur Thapa	Besarekhetkaase Khola Pahironiyatranupabhokta Samuha, Budathum-5, Dhading	President
2	Kamal Thapa Magar	Mahendrodaya S.S., Mulpani-5, Dhading	Principal
3	Bhakta Bahadur Simkhada	FECOFUN, Dhading	President
4	Rajit Silwal	FECOFUN, Dhading	Member

APPENDIX 4: Questionnaire/Interview Guide for Review

1. Could you kindly explain about the project's conception and its implementation process in the field?

2. How would you explain the effectiveness of the project?
   1.1 Because it was relevant and appropriate project in a given situation
   1.2 Because it increased participation of the targeted group
   1.3 Because it was also identified by district line agencies and other development partners
   1.4 Because it could benefit the targeted population
   1.5 Because it had an opportunity to build partnership
   1.6 Because it directly supported the Hariyo Ban's recovery of regular activities
   1.7 Because transparent approach was used

3. What are the problems, challenges and issues faced during project cycle-conception, implementation and monitoring?
   3.1 Institutional/organizational problem
   3.2 Conflict and friction between stakeholders
   3.3 Financial flow
   3.4 Operational problems
   3.5 Technical/design problems

4. Give us at least five activities/considerations that ensured the GRR practice in the given project?

5. Tell us the main impacts the project had on the beneficiaries and the other stakeholders?
   1.5 Livelihood restoration?
   1.6 Empowerment?
   1.7 Bio-diversity conservation
   1.8 Or others

6. Give us five justifications for you to consider this project a complete success?

7. Give us at least five suggestions for the improvement of the GRR intervention in ERR initiatives in future

Checklists

- Program details with financial budgeting
- Publications/brochures/presentations
- VDC profiles
- Minutes of meeting between implementing agencies and the users/subgroups
- Cash for work cash distribution sheet
- HH Survey data of the beneficiaries etc

APPENDIX 5: Field Visit Schedule

WWF Nepal / Hariyo Ban Program
Project Evaluation (17-20 Nov 2016)
Nuwakot and Rasuwa
Tentative field plan (Itinerary)

Date	*Place*	*Activities*	*Responsibility*
Thu, 17 Nov 2016	*Kathmandu-Dhunche*	• *Arrive Nuwakot by noon and interaction with stakeholders* • *Reach to Rasuwa at evening* • *Hariyo Ban Program progress presentation and sharing field program at project office by LNPBZSP/WWF and FECOFUN Rasuwa* • *Over night at Dhunche*	*Gautam/Lila (FECOFUN) /Rajan/Arun and evaluation team*
Fri, 18 Nov 2016	*Dhunche- Syafru-Dhunche*	• *Early move to Thulo Syafru (2.5 hrs. trek) reach there by 11* • *Lunch there, interaction and field observation (Irrigation channel, cash for work sites, tourist trail etc)* • *Back to Dhunche via Syafrubesi Bharku (2 hrs. trek) overnight Dhunche*	*Arun/Evaluation team*
Fri, 19 Nov 2016	*Dhunche-Ramche-Kalikasthan*	• *Site observation (landfill site, tourist trail, information centre) around Dhunche* • *Site visit Mini Gosaikunda in the early morning (walking distance)* • *Interaction with grantees at their office (By 10 am)* • *Lunch then get back to Kalikasthan* • *Site observation on the way back to Kalikasthan- ICS in Thade, landslide protection in Ramche, check dam in Dhobikhola Dhaibung, WASH at Syaubari and 'cash for work' sites around Kalikasthan* • *Overnight Kalikasthan (Hotel Gosaikunda)*	*Gautam/Rajan/Arun/Lila /Evaluation team*
Sat, 20 Nov 2016	*Kalikasthan-Laharepauwa-Kathmandu*	• *Early move (7 AM) to Kramidanda Laharepauwa. Observe few activities (Trail, WASH, equipment etc) carried by FECOFUN, Water hole construction along with spring source protection at Niglenipakha Buffer Zone Community Forest Users Group and Interaction with BZUC Laharepauwa* • *Filed observation Bio Engineering practices and irrigation channel in Pairobesi.* • *Lunch at Trishuli then back to Kathmandu*	*Gautam/Arun/Lila/Evaluation team*

WWF Nepal / Hariyo Ban Program
Project Evaluation (29 Nov-5 Dec 2016)
Gorkha, Dhading
Tentative field plan (Itinerary)

Date	*Place*	*Activities*	*Responsibility*
Tue, 29 Nov 2016	*Kathmandu-Gorkha*	• *Arrive at Gorkha at Evening.*	*Mahendra Shakya*
Wed, 30 Nov 2016	*Gorkha town to Palumtar*	• *Early move to Palumtar* • *Training session at Palumtar, Gorkha* • *Observation of Soil Bioengineering Site at Dhodre* • *Back to Gorkha Town for night stay*	*Mahendra Shakya/ Training Co-ordinating team*
Thu 1Dec, 2016	*Gorkha town*	• *Early morning interaction with Consortium Partner CARE* • *Interaction with Consortium partner NTNC* • *Lunch at Gorkha Town* • *Moving to Barpak and Simjung*	*Mahendra Shakya/ Consortium Partners*
Fri, 2 Dec 2016	*Barpak*	• *Early move (7 AM) to intervention sites and discussion with stakeholders* • *Night stay at Barpak*	*Gautam/Arun/Lila/Evaluation team*
Sat 3 Dec, 2016	*Barpak to Simjung to Dhading*	• *Early Move to Simjung and visit to different intervention sites* • *Moving to Dhading* • *Overnight stay at Dhading town*	*Mahendra Shakya/ Consortium Partners CARE/FECOFUN*
Sat 4 Dec, 2016	*Dhading to Mulpani and Budathum*	• *Early morning interaction with Sahayatri Nepal, Implementing partner CARE* • *Early move to Budathum and Mulpani* • *Interaction with stakeholders and implementing partners at the site* • *Stay at Mulpani*	*Mahendra Shakya/ Consortium Partners CARE/FECOFUN*
Sun 5 Dec, 2016	*Dhading to Kathmandu*	• *Early morning move to Dhading site and interaction with DSC Officer.* • *Visit to site of FECOFUN at Dhading* • *Back to Kathmandu*	*Mahendra Shakya/ Consortium Partners CARE/FECOFUN*

APPENDIX 6: Terms of Reference

Terms of Reference for Consultant on supporting Green Recovery and Reconstruction Works in Hariyo Ban Program

These Terms of Reference are for a consultancy to provide inputs to a Green Recovery and Reconstruction (GRR) Training Manual, Evaluating the GRR field interventions in the Hariyo Ban program districts, and delivering a Session in the GRR Workshop to support the Green Recovery and Reconstruction work in the Hariyo Ban Program, Nepal.

Introduction

After the 2014 floods in the Terai, Hariyo Ban conducted activities to promote green recovery and reconstruction. This included a training of trainers course at national level; practical field level training for district government personnel and NGOs; and a short workshop in Kathmandu for Government departments, NGOs and proposal writers. On 25 April 2015, a 7.8 magnitude earthquake struck Nepal with the epicenter in Gorkha district located 81 km northwest of the capital city of Kathmandu. This was followed by strong aftershocks, including one of 7.3 magnitude with the epicenter 18 km SE of Kodari in Dolakha district on 12 May. The earthquake severely impacted 14 out of the 75 districts in the country, and left over 8,900 people dead and over 22,000 injured. The earthquake destroyed over 480,000housesand damaged 200,000 more[10]. A large number of people were displaced, some living in displacement camps. By 8 May, it was estimated that 8.1 million people needed humanitarian assistance[11]. The worst affected districts were in the Western and Central Regions, including Sindhupalchowk, Dolakha, Nuwakot, Dhading, Rasuwa, Kabhrepalanchowk, Gorkha and Ramechhap. In greater Kathmandu, the urban center of Bhaktapur was also badly affected. Moderately affected areas include Sindhuli, Makwanpur, Solukhumbu, Lamjung and Okhaldhunga districts; and Kathmandu and Lalitpur urban centers[12]. In many areas landslides were triggered by the earthquake[13], and there is a high risk of others occurring, especially during the monsoon.

Nepal is now in the early post-earthquake reconstruction phase. There will be massive recovery and reconstruction efforts across many sectors, for the next few years. In a donor conference in June 2015, donors pledged $4.4 billion for earthquake recovery and reconstruction. There is much recognition of the importance of building back better and safer, ensuring that Nepal is more resilient to future earthquakes and other disasters. In order to do this, it is also essential to 'build back greener'. This is particularly important since Nepal has a high risk of natural disasters that are related to land uses, and many of its people are highly dependent on natural resources and ecosystem services for their livelihoods and security.

A post-disaster needs assessment and rapid environmental assessment were conducted in 2015, which contain a set of 10 environmental principles for recovery, applicable across sectors. The rapid environmental assessment led by Ministry of Science, Technology and Environment and implemented by WWF/Hariyo Ban looked in more detail at direct environmental impacts of the earthquake, and likely impacts due to relief, recovery and reconstruction activities. Hariyo Ban obtained additional funding from USAID for green recovery and reconstruction work, which has been implemented both in the field, in four project districts, and at central level. In the field the program has collaborated with partners to support recovery and reconstruction including water supplies, livelihood activities, cash for work, trail construction, and household energy supplies. It has established demonstration sites of good practices, including soil bioengineering to stabilize landslide sites. At central level the program worked initially with several disaster clusters, and later with several GoN ministries to mainstream environmental practices into official guidelines (e.g. school reconstruction guidelines, mason training manual). It has trained engineers, architects, Members of Parliament, mason trainers, community radio stations, District Disaster Relief Committee members and others in environmentally sound practices. Since the largest impacts of reconstruction are likely to come from the building (especially housing) sector, there has been a major focus on that sector, attempting to reach from central policy making level to mason and household level.

Hariyo Ban's GRR work at central level will end in December 2016. The Program intends to produce a manual on GRR specifically for Nepal, Evaluation of GRR Field Intervention in four Hariyo Ban Districts and conducting GRR workshops.

Objectives

The objectives of this consultancy are to support Hariyo Ban by:

- Preparing a chapter on Integrated land development Planning for the GRR Manual
- Supporting to prepare a chapter on Buildings and settlements for the GRR Manual
- Providing overall comments and feedback on the draft manual
- Evaluating the GRR field interventions in the Hariyo Ban program districts (Gorkha, Dhading, Nuwakot and Rasuwa) and the central level work to promote GRR across sectors.
- Preparing and presenting a session on Sustainable Settlement Planning.

Consultant responsibilities

[10] United Nations Office for the Coordination of Humanitarian Affairs. 2015. Nepal: Earthquake 2015. Situation Report No. 12 (as of 8 May 2015). http://reliefweb.int/report/nepal/nepal-earthquake-2015-situation-report-no-12-8-may-2015 and Situation Report No. 15 (as of 15 May 2015) http://un.org.np/sites/default/files/OCHANepalEarthquakeSituationReportNo.15(15May2015)_new_0.pdf

[11] http://www.unocha.org/nepal. 10 May 2015.

[12] http://www.unocha.org/nepal and https://docs.google.com/spreadsheets/d/1MCsMtcfN8jwGg4qdzYZCKyxpYp8cdqRSrEpF1WpR6ZE/edit#gid=1089957806 as of 19 May 2015

[13] https://www.disasterscharter.org/image/journal/article.jpg?img_id=157332&t=1431084341836

The Consultant will undertake the following work:

A. GRR Manual

Lead the writing of a chapter on Integrated Land Development Planning, as per the outline in Annex 1. The consultant will work closely with others collaborating on the chapter, and will follow the general chapter outline for the manual as much as possible.

- support the writing of a buildings and settlements chapter for the manual, collaborating with others working on the chapter
- update the chapters based on feedback received from reviewers

B. Rapid evaluation of Hariyo Ban**'s recovery work in four earthquake**-affected districts and central level work

Undertake a rapid and independent evaluation of Hariyo Ban Program's post-earthquake recovery interventions in four affected districts (Rasuwa, Nuwakot, Dhading and Gorkha), covering work of all four consortium partners (WWF, CARE, FECOFUN and NTNC); and the central level work to promote green practices across sectors. As possible the consultant will visit a selection of field sites for each partner (though NTNC may be difficult because of access constraints to Manaslu Conservation Area in the time available). He will review all major types of interventions by Hariyo Ban (listed in Annex 2). The consultant will evaluate:

1. The general effectiveness of the Hariyo Ban partner field recovery interventions, including successes, failures and challenges.
2. The specific effectiveness of the environmental aspects of the field recovery work in the four districts – what measures were taken to ensure sound environmental management during the work and environmental sustainability for the future, and how effective were they?
3. The effectiveness of the work to establish pilot demonstration sites for promotion of green practices in the future (both soil bioengineering and other types of interventions)
4. The effectiveness of the core team works to build capacity for and promote green practices across different sectors.
5. The effectiveness of mainstreaming gender and social inclusion (GESI) in the recovery work.

6. Methodology for the rapid evaluation includes:

- Review of background materials and processes followed by Hariyo Ban (information to be provided by the Program)
- Initial meetings with Hariyo Ban staff
- Production of an inception report and presentation to Hariyo Ban and other stakeholders detailing the methodology for the evaluation including number of field sites to visit, interviews and focus group discussions to conduct, etc.
- Interviews with Hariyo Ban consortium partner and core team staff
- Field visits to intervention sites representative (as far as possible) of all types of interventions in the field
- Interviews and focus group discussions with a sample of stakeholders in the field including beneficiaries, local government, and implementing partners
- Visits to GRR training events sponsored by Hariyo Ban
- Interviews with a sample of stakeholders in other sectors who received training or other guidance from Hariyo Ban in GRR
- Production of draft report and presentation to Hariyo Ban staff, consortium partners and other stakeholders (meeting to be organized by Hariyo Ban Program)
- Incorporation of relevant feedback, and production of final report.

C. Preparation and presentation of a session on Sustainable Settlement Planning

The consultant will prepare and present a session on Sustainable Settlement Planning during the GRR training workshops. The target group will be focused on Government Line Agencies & I/NGO staff in Dhading; and Members of Housing Recovery and Reconstruction Platform. The training module will be titled the 'GRR-Sustainable Settlement Planning-Land Readjustment Approach' in the context of post disaster reconstruction & resettlement. The main objective of the module is to broaden the knowledge of the target group regarding;

- The principles of sustainable settlement planning specific in the context of post disaster reconstruction
- The land readjustment approach in settlement planning in the context of post disaster reconstruction & resettlement for building back better.
- Ways to integrate GRR principles in sustainable settlement planning

Reporting line and collaborators

The Consultant will work under the supervision of Chandra Laxmi Hada, Green Recovery and Reconstruction Specialist, Hariyo Ban Program, WWF Nepal and in close collaboration with Judy Oglethorpe, Chief of Party, Hariyo Ban Program. He will work closely with Sandesh Hamal, Deputy Chief of Party and Mahendra Shakya, Program Officer.

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